

Impact of length of data on forecst accuracy

International Symposium on Forecasting, June 28 – July 1, 2026, Montreal,
Canada

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School of Mathematics, Cardiff University

William Bennett, Co-supervisor

School of Engineering, University of Swansea

Create slides

Create slides using

create a slide using ## for slide title

Section or special slide

Live Demo

Data visualisation best practices

Data visualisation best practices

Detailed,
accurate,
numbers?

Or the big,
picture
message?

Craete lists

create bulleted list

create a list using `-`, `+`, or `*`

- first bullet
- second bullet
- third bullet

create ordered list

1. first
2. second
3. third

Multile columns

Using multile columns

sometimes you want to create multile columns in a slide:

- use when you want to have a left and right column
- Use whn you wnat to have an image in one side and text in the other side
- when you want to have a formula on one side and explanation on the other side
- when you want to have code on one side and output on the other side
- when you want to have a plot on one side and explanation on the other side
- when you want to have any content on one side and any content on the other side
- when you want to have multiple images each in one column
- you can also create multope columns with more than two columns using the same syntax

Cræete multile columns

- use `:::: {.columns}` to start the columns
- use `::: {.column width="30%"}` to start the left column, and specify the width
- use `::: {.column width="70%"}` to start the right column, and specify the width
- use `:::` to end each column
- use `::::` to end the columns

Delay showing content

Slide with a pause using . . .

content before the pause

content after the pause

Using Incremental with lists

- Understanding UI components of Positron
- Create projects in Positron
- Describe three main tasks
- Describe three things to know about R/Python
- Install and load packages

Using Fragment with anything

You can use fragment to delay anything showing, including images, text, formulas, code, plots, etc.



Add footnotes and asides

Footnote

- Understanding UI components of Positron ¹
- Create projects in Positron
- Describe three main tasks
- Describe three things to know about R/Python
- Install and load packages

Aside

- Understanding UI components of Positron
- Create projects in Positron
- Describe three main tasks
- Describe three things to know about R/Python
- Install and load packages



Include images

use full background image



Exploratory work

Read the book:
<https://dfep.netlify.app/>

Outline

- Understanding UI components of Positron
- Create projects in Positron
- Describe three main tasks
- Describe three things to know about R/Python
- Install and load packages



4 images using layout-ncol

This is the main slide, with some desription of events

This is the main slide, with some desription of events



4 images using 4 columns

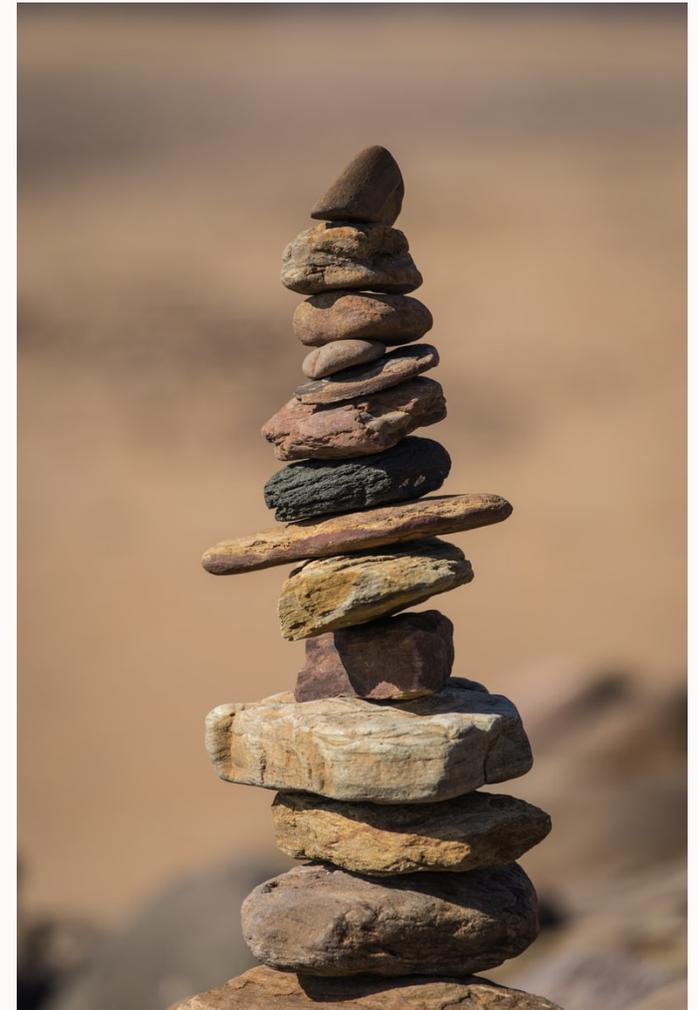
This is the main slide, with some description of events

This is the main slide, with some description of events



3 images using layout-ncol

This is the main slide, with some description of events



3 images using 3 columns

This is the main slide, with some description of events



Grid- many images (use max 6 per slide)

Image Grid – use `layout-col=`

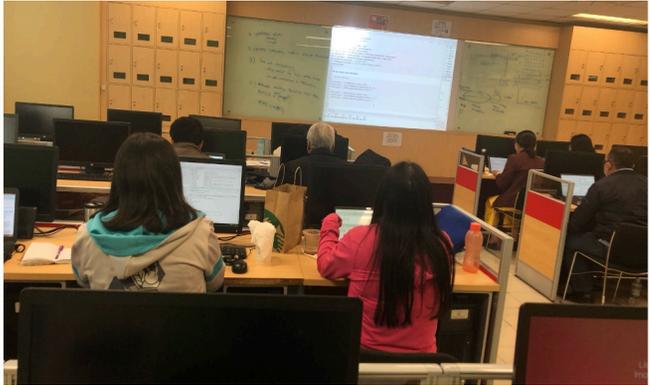


Image Grid - using columns

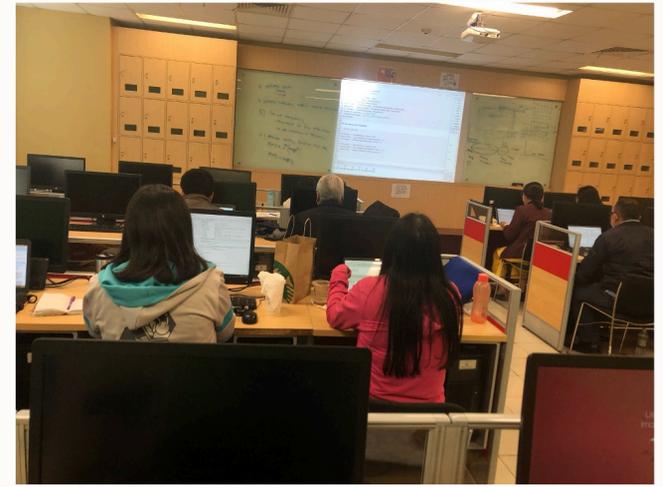


Image Grid–use `layout-col=`

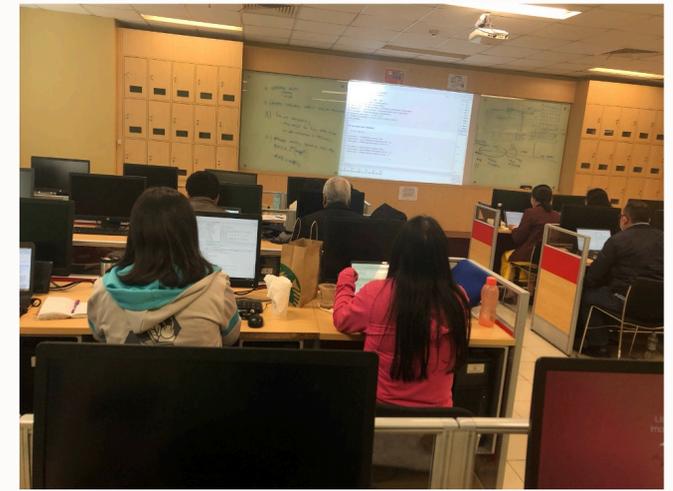


Image in left or right with text

Sometimes you want to have an image on the left or right side of the slide with text on the other side, you can do it using the following syntax



agenda, learning outcomes/objectives

- Describe the forecasting workflow
- Identify factors affecting forecastability
- Describe forecasting methods
- Fit forecasting models using fable
- Produce forecasts using fable
- Evaluate forecast accuracy and residual diagnostics
- Visualise forecast distributions

image right

- Understanding UI components of Positron
- Create projects in Positron
- Describe three main tasks in data analytics using R/Python and how to perform them
- Describe three important things to know about R/Python
- Install and load packages



My first independent ersearch

How temporal aggregation (both overlapping and on-overlapping) affects forecasting accuracy considering autocorrelated series with limited length.



Footers

include footer

you can include a footer in all slides by adding

`footer: "Custom footer text"` in YAML

Use a different footer in slides

in the YAML you can provide a footer that goes to all slides, if you want to change it in a particular slide, you need to do this:

Scroorable slides

this is useful when you have a lot of content in a slide and you want to scroll it during the presentation

Scroorable

Live demo

Where do cats go?

```
1 plot(  
2   x = cats$location_long,  
3   y = cats$location_lat,  
4   xlab = "Longitude",  
5   ylab = "Latitude"  
6 )
```

How fast do cats run?

```
1 hist(  
2   x = cats$ground_speed,  
3   xlab = "Ground speed (m/s)",  
4   main = "Histogram of ground speed"  
5 )
```

How long do they spend indoors?

```
1 barplot(table(cats_reference$hrs_indoors))
```

Does that change as they get older?

```
1 plot(  
2   x = cats_reference$age_years,  
3   y = cats_reference$hrs_indoors,  
4   xlab = "Age",  
5   ylab = "Hours indoors"  
6 )
```

Change font color

Font color

Use font colors when needed to **emphasize key points**

Hello R community,

This **Bahman Rostami-Tabar** from Data Lab for Social Good, Cardiff Business School, Cardiff University.

Use font colors when needed to **emphasize key points**

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Make content of a slide smaller

Font color

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Code and its output

In the following examples, we show how to control code output display in revealjs presentations using Quarto. Please observe different options for code output location.

Code folded

► Code

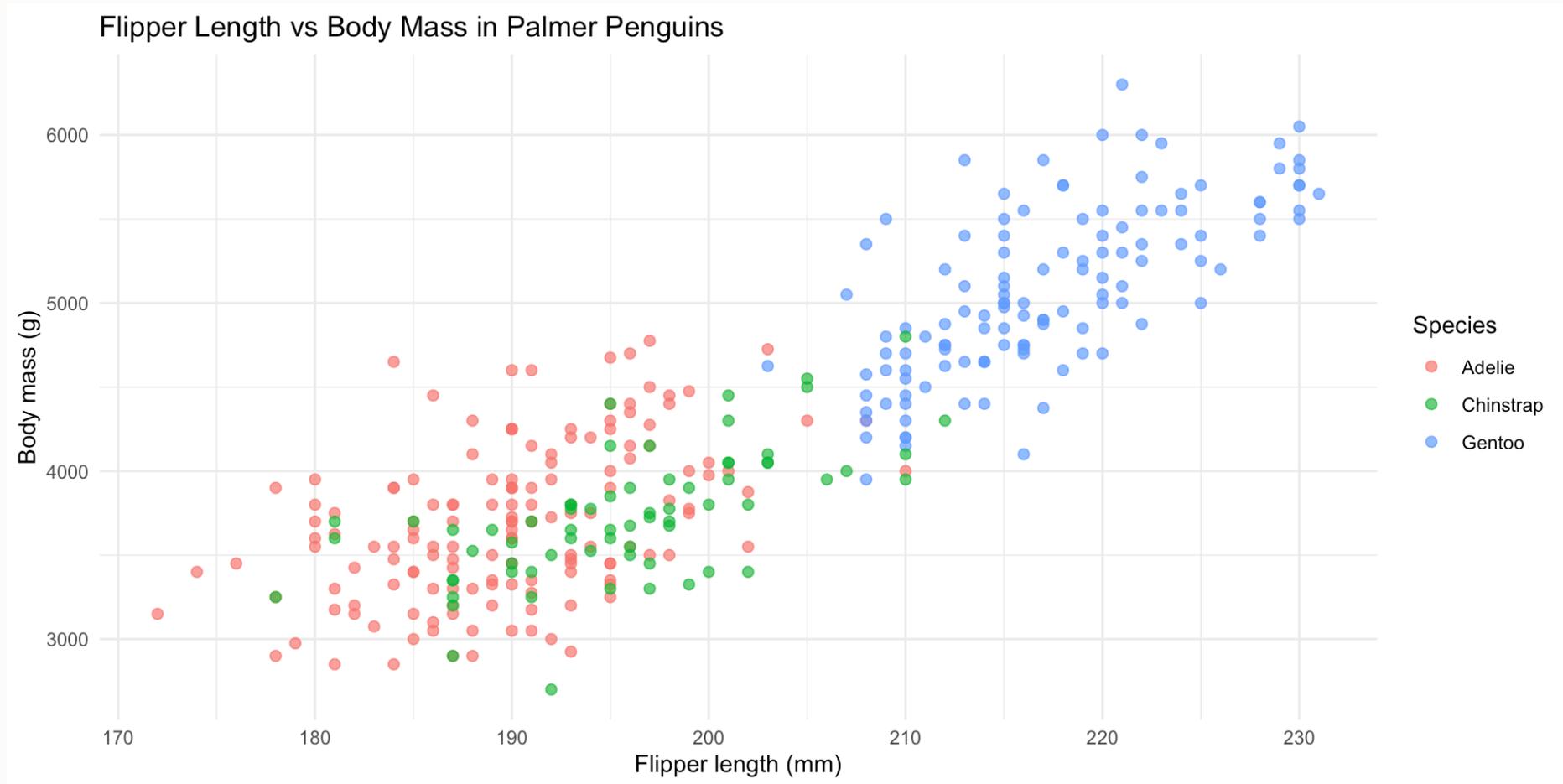
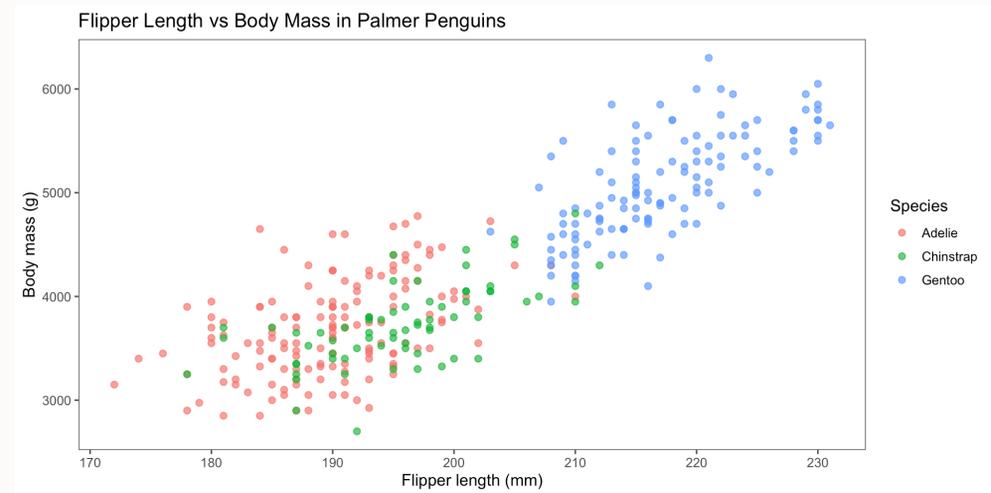


Figure 1

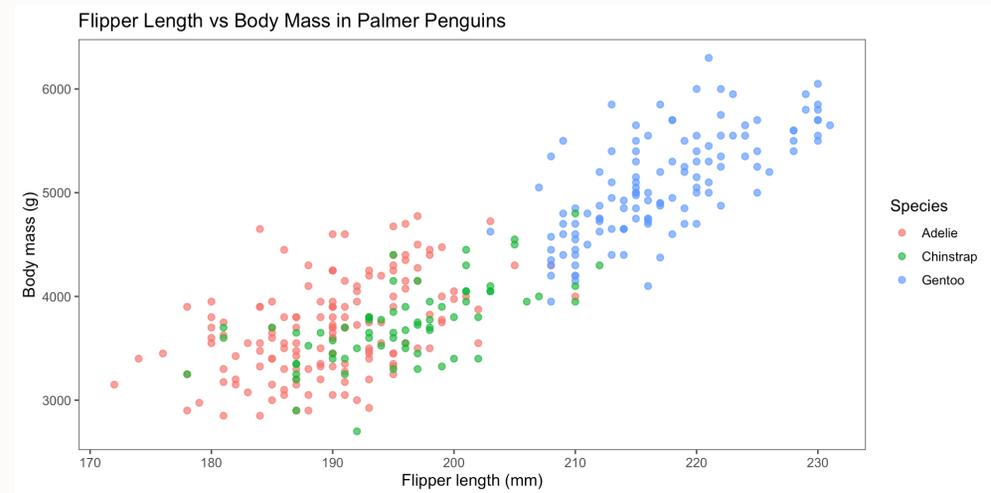
column

```
1 ggplot(penguins,  
2       aes(x = flipper_length_mm,  
3           y = body_mass_g,  
4           color = species)) +  
5 geom_point(alpha = 0.7,  
6           size = 2) +  
7 labs(  
8   title = "Flipper Length vs Body Mass in  
9   x = "Flipper length (mm)",  
10  y = "Body mass (g)",  
11  color = "Species"  
12 ) +  
13 ggthemes::theme_few()
```



column-fragment

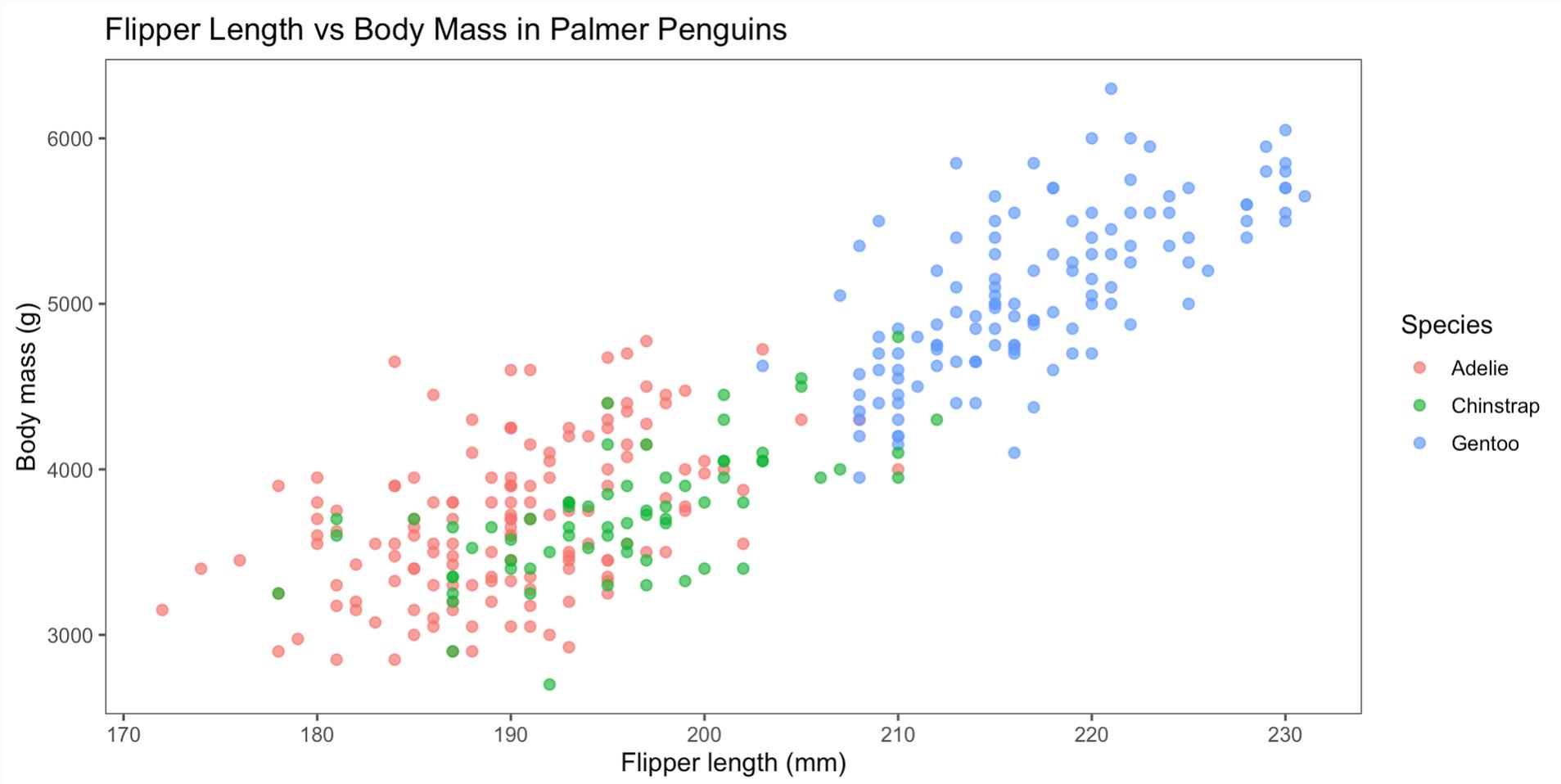
```
1 ggplot(penguins,  
2       aes(x = flipper_length_mm,  
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7 labs(  
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9   x = "Flipper length (mm)",  
10  y = "Body mass (g)",  
11  color = "Species"  
12 ) +  
13 ggthemes::theme_few()
```



slide

```
1 ggplot(penguins,  
2       aes(x = flipper_length_mm,  
3           y = body_mass_g,  
4           color = species)) +  
5 geom_point(alpha = 0.7,  
6            size = 2) +  
7 labs(  
8   title = "Flipper Length vs Body Mass in Palmer Penguins",  
9   x = "Flipper length (mm)",  
10  y = "Body mass (g)",  
11  color = "Species"  
12 ) +  
13 ggthemes::theme_few()
```

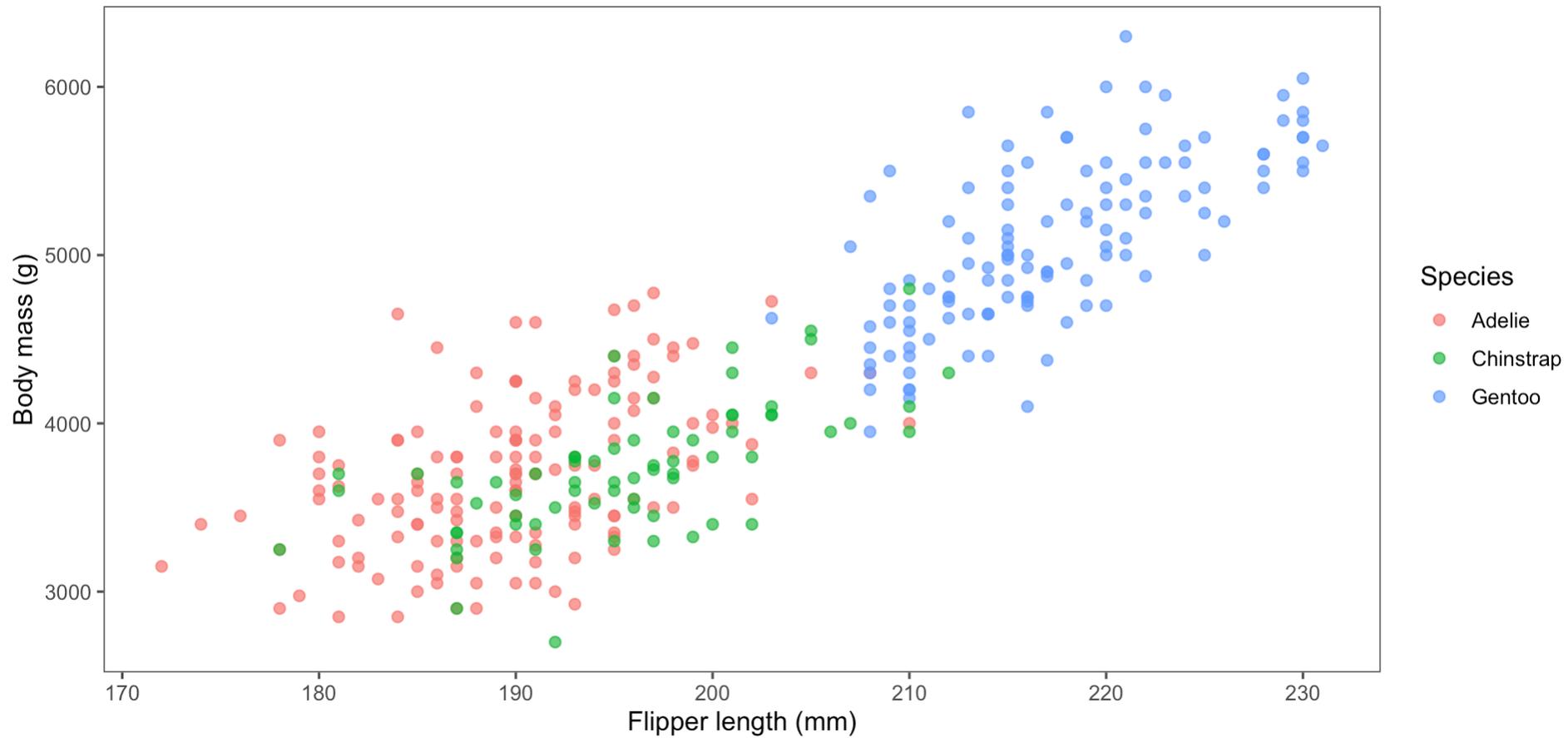
slide



fragment

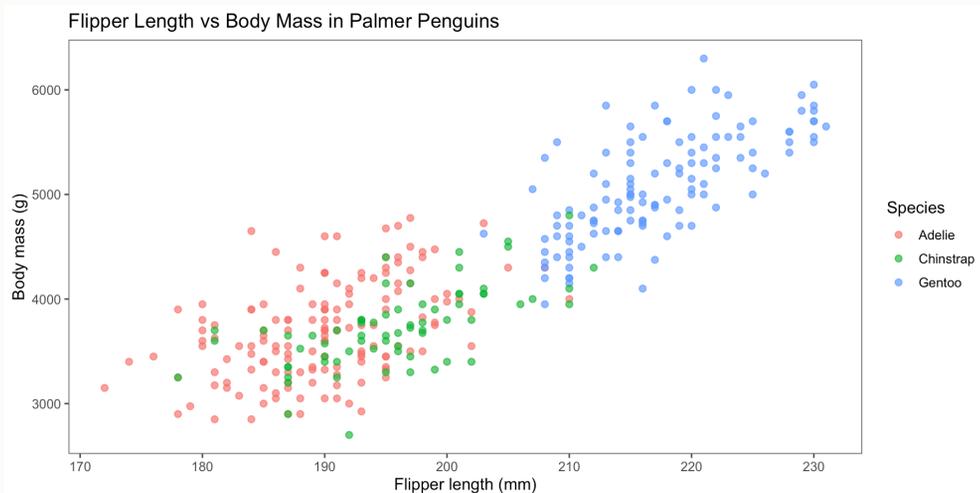
```
1 ggplot(penguins,  
2       aes(x = flipper_length_mm,  
3           y = body_mass_g,  
4           color = species)) +  
5 geom_point(alpha = 0.7,  
6            size = 2) +  
7 labs(  
8   title = "Flipper Length vs Body Mass in Palmer Penguins",  
9   x = "Flipper length (mm)",  
10  y = "Body mass (g)",  
11  color = "Species"  
12 ) +  
13 ggthemes::theme_few()
```

Flipper Length vs Body Mass in Palmer Penguins



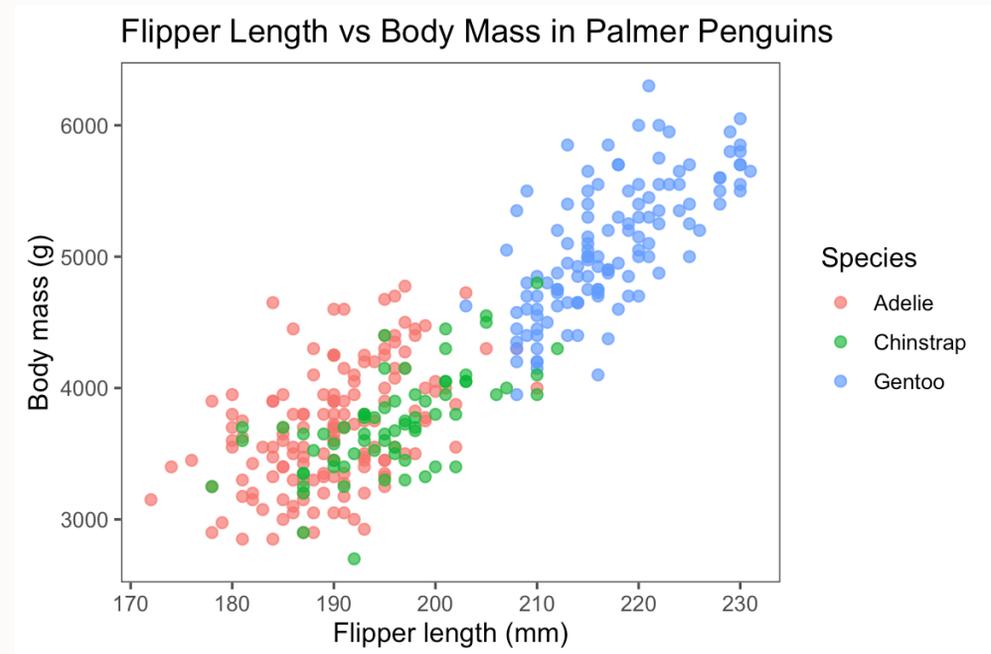
default

```
1 ggplot(penguins,  
2       aes(x = flipper_length_mm,  
3           y = body_mass_g,  
4           color = species)) +  
5 geom_point(alpha = 0.7,  
6            size = 2) +  
7 labs(  
8   title = "Flipper Length vs Body Mass in Palmer Penguins",  
9   x = "Flipper length (mm)",  
10  y = "Body mass (g)",  
11  color = "Species"  
12 ) +  
13 ggthemes::theme_few()
```



Notes with code output

- Meanwhile, Allison keeps playing with the penguins
- And plotting with the penguins
- And looking at more penguin pictures
- Aligns eerily well with iris data



Highlight specific consecutive line code

```
1 import numpy as np
2 import matplotlib.pyplot as plt
3
4 r = np.arange(0, 2, 0.01)
5 theta = 2 * np.pi * r
6 fig, ax = plt.subplots(subplot_kw={'projection': 'polar'})
7 ax.plot(theta, r)
8 ax.set_rticks([0.5, 1, 1.5, 2])
9 ax.grid(True)
10 plt.show()
```

Highlight seperate lines

```
1 import numpy as np
2 import matplotlib.pyplot as plt
3
4 r = np.arange(0, 2, 0.01)
5 theta = 2 * np.pi * r
6 fig, ax = plt.subplots(subplot_kw={'projection': 'polar'})
7 ax.plot(theta, r)
8 ax.set_rticks([0.5, 1, 1.5, 2])
9 ax.grid(True)
10 plt.show()
```

Highlight several lines progressively

```
1 import numpy as np
2 import matplotlib.pyplot as plt
3
4 r = np.arange(0, 2, 0.01)
5 theta = 2 * np.pi * r
6 fig, ax = plt.subplots(subplot_kw={'projection': 'polar'})
7 ax.plot(theta, r)
8 ax.set_rticks([0.5, 1, 1.5, 2])
9 ax.grid(True)
10 plt.show()
```

Panels and tabsets

Panels and tabsets

Code

Plot

```
1 ggplot(penguins,  
2       aes(x = flipper_length_mm,  
3           y = body_mass_g,  
4           color = species)) +  
5 geom_point(alpha = 0.7,  
6            size = 2) +  
7 labs(  
8   title = "Flipper Length vs Body Mass in Palmer Penguins",  
9   x = "Flipper length (mm)",  
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11  color = "Species"  
12 ) +  
13 ggthemes::theme_few()
```

Tables

Multiple choice for tables in R: [kableExtra](#), [gt](#), [flextable](#), [DT](#), [reactable](#)

Manual tables

Penguin Species Summary Statistics

Species	Count	Avg_Bill_Length_mm
Adelie	152	38.8
Chinstrap	68	48.3
Gentoo	124	46.0

Table's output from code

Motor Trend Car Road Tests

	mpg	cyl	disp	hp	drat	wt	qsec	vs	am	gear	carl
Mazda RX4	21.0	6	160.0	110	3.90	2.620	16.46	0	1	4	'
Mazda RX4 Wag	21.0	6	160.0	110	3.90	2.875	17.02	0	1	4	'
Datsun 710	22.8	4	108.0	93	3.85	2.320	18.61	1	1	4	'
Hornet 4 Drive	21.4	6	258.0	110	3.08	3.215	19.44	1	0	3	'
Hornet Sportabout	18.7	8	360.0	175	3.15	3.440	17.02	0	0	3	'
Valiant	18.1	6	225.0	105	2.76	3.460	20.22	1	0	3	'
Duster 360	14.3	8	360.0	245	3.21	3.570	15.84	0	0	3	'

	mpg	cyl	disp	hp	drat	wt	qsec	vs	am	gear	carl
Merc 240D	24.4	4	146.7	62	3.69	3.190	20.00	1	0	4	4
Merc 230	22.8	4	140.8	95	3.92	3.150	22.90	1	0	4	4
Merc 280	19.2	6	167.6	123	3.92	3.440	18.30	1	0	4	4
Merc 280C	17.8	6	167.6	123	3.92	3.440	18.90	1	0	4	4
Merc 450SE	16.4	8	275.8	180	3.07	4.070	17.40	0	0	3	4
Merc 450SL	17.3	8	275.8	180	3.07	3.730	17.60	0	0	3	4
Merc 450SLC	15.2	8	275.8	180	3.07	3.780	18.00	0	0	3	4
Cadillac Fleetwood	10.4	8	472.0	205	2.93	5.250	17.98	0	0	3	4
Lincoln Continental	10.4	8	460.0	215	3.00	5.424	17.82	0	0	3	4

	mpg	cyl	disp	hp	drat	wt	qsec	vs	am	gear	carl
Chrysler Imperial	14.7	8	440.0	230	3.23	5.345	17.42	0	0	3	4
Fiat 128	32.4	4	78.7	66	4.08	2.200	19.47	1	1	4	4
Honda Civic	30.4	4	75.7	52	4.93	1.615	18.52	1	1	4	4
Toyota Corolla	33.9	4	71.1	65	4.22	1.835	19.90	1	1	4	4
Toyota Corona	21.5	4	120.1	97	3.70	2.465	20.01	1	0	3	4
Dodge Challenger	15.5	8	318.0	150	2.76	3.520	16.87	0	0	3	4
AMC Javelin	15.2	8	304.0	150	3.15	3.435	17.30	0	0	3	4
Camaro Z28	13.3	8	350.0	245	3.73	3.840	15.41	0	0	3	4

Model output tables

Linear Model Summary for Diamond Prices

term	estimate	std.error	statistic	p.value
(Intercept)	-3187.540230	14.47510	-220.2084797	0.0000000
carat	8472.026094	12.61500	671.5835724	0.0000000
cut.L	713.803987	22.51135	31.7086303	0.0000000
cut.Q	-334.502842	19.82753	-16.8706293	0.0000000
cut.C	188.481956	17.21756	10.9470754	0.0000000
cut^4	1.663451	13.79383	0.1205939	0.9040132
clarity.L	4011.681398	33.93099	118.2306112	0.0000000
clarity.Q	-1821.922165	31.86995	-57.1674023	0.0000000
clarity.C	917.657973	27.31322	33.5975764	0.0000000
clarity^4	-430.046621	21.83128	-19.6986427	0.0000000

term	estimate	std.error	statistic	p.value
clarity^5	257.141086	17.82059	14.4294393	0.0000000
clarity^6	26.909185	15.53884	1.7317369	0.0833261
clarity^7	186.741968	13.68482	13.6459191	0.0000000

Read tables from CSV

Gapminder Data Sample

country	continent	year	lifeExp	pop	gdpPercap
Afghanistan	Asia	1952	28.80100	8425333	779.4453
Afghanistan	Asia	1957	30.33200	9240934	820.8530
Afghanistan	Asia	1962	31.99700	10267083	853.1007
Afghanistan	Asia	1967	34.02000	11537966	836.1971
Afghanistan	Asia	1972	36.08800	13079460	739.9811
Afghanistan	Asia	1977	38.43800	14880372	786.1134
Afghanistan	Asia	1982	39.85400	12881816	978.0114
Afghanistan	Asia	1987	40.82200	13867957	852.3959
Afghanistan	Asia	1992	41.67400	16317921	649.3414
Afghanistan	Asia	1997	41.76300	22227415	635.3414

country	continent	year	lifeExp	pop	gdpPercap
Afghanistan	Asia	2002	42.12900	25268405	726.7341
Afghanistan	Asia	2007	43.82800	31889923	974.5803
Albania	Europe	1952	55.23000	1282697	1601.0561
Albania	Europe	1957	59.28000	1476505	1942.2842
Albania	Europe	1962	64.82000	1728137	2312.8890
Albania	Europe	1967	66.22000	1984060	2760.1969
Albania	Europe	1972	67.69000	2263554	3313.4222
Albania	Europe	1977	68.93000	2509048	3533.0039
Albania	Europe	1982	70.42000	2780097	3630.8807
Albania	Europe	1987	72.00000	3075321	3738.9327
Albania	Europe	1992	71.58100	3326498	2497.4379
Albania	Europe	1997	72.95000	3428038	3193.0546
Albania	Europe	2002	75.65100	3508512	4604.2117

country	continent	year	lifeExp	pop	gdpPercap
Albania	Europe	2007	76.42300	3600523	5937.0295
Algeria	Africa	1952	43.07700	9279525	2449.0082
Algeria	Africa	1957	45.68500	10270856	3013.9760
Algeria	Africa	1962	48.30300	11000948	2550.8169
Algeria	Africa	1967	51.40700	12760499	3246.9918
Algeria	Africa	1972	54.51800	14760787	4182.6638
Algeria	Africa	1977	58.01400	17152804	4910.4168
Algeria	Africa	1982	61.36800	20033753	5745.1602
Algeria	Africa	1987	65.79900	23254956	5681.3585
Algeria	Africa	1992	67.74400	26298373	5023.2166
Algeria	Africa	1997	69.15200	29072015	4797.2951
Algeria	Africa	2002	70.99400	31287142	5288.0404
Algeria	Africa	2007	72.30100	33333216	6223.3675

country	continent	year	lifeExp	pop	gdpPercap
Angola	Africa	1952	30.01500	4232095	3520.6103
Angola	Africa	1957	31.99900	4561361	3827.9405
Angola	Africa	1962	34.00000	4826015	4269.2767
Angola	Africa	1967	35.98500	5247469	5522.7764
Angola	Africa	1972	37.92800	5894858	5473.2880
Angola	Africa	1977	39.48300	6162675	3008.6474
Angola	Africa	1982	39.94200	7016384	2756.9537
Angola	Africa	1987	39.90600	7874230	2430.2083
Angola	Africa	1992	40.64700	8735988	2627.8457
Angola	Africa	1997	40.96300	9875024	2277.1409
Angola	Africa	2002	41.00300	10866106	2773.2873
Angola	Africa	2007	42.73100	12420476	4797.2313
Argentina	Americas	1952	62.48500	17876956	5911.3151

country	continent	year	lifeExp	pop	gdpPercap
Argentina	Americas	1957	64.39900	19610538	6856.8562
Argentina	Americas	1962	65.14200	21283783	7133.1660
Argentina	Americas	1967	65.63400	22934225	8052.9530
Argentina	Americas	1972	67.06500	24779799	9443.0385
Argentina	Americas	1977	68.48100	26983828	10079.0267
Argentina	Americas	1982	69.94200	29341374	8997.8974
Argentina	Americas	1987	70.77400	31620918	9139.6714
Argentina	Americas	1992	71.86800	33958947	9308.4187
Argentina	Americas	1997	73.27500	36203463	10967.2820
Argentina	Americas	2002	74.34000	38331121	8797.6407
Argentina	Americas	2007	75.32000	40301927	12779.3796
Australia	Oceania	1952	69.12000	8691212	10039.5956
Australia	Oceania	1957	70.33000	9712569	10949.6496

country	continent	year	lifeExp	pop	gdpPercap
Australia	Oceania	1962	70.93000	10794968	12217.2269
Australia	Oceania	1967	71.10000	11872264	14526.1246
Australia	Oceania	1972	71.93000	13177000	16788.6295
Australia	Oceania	1977	73.49000	14074100	18334.1975
Australia	Oceania	1982	74.74000	15184200	19477.0093
Australia	Oceania	1987	76.32000	16257249	21888.8890
Australia	Oceania	1992	77.56000	17481977	23424.7668
Australia	Oceania	1997	78.83000	18565243	26997.9366
Australia	Oceania	2002	80.37000	19546792	30687.7547
Australia	Oceania	2007	81.23500	20434176	34435.3674
Austria	Europe	1952	66.80000	6927772	6137.0765
Austria	Europe	1957	67.48000	6965860	8842.5980
Austria	Europe	1962	69.54000	7129864	10750.7211

country	continent	year	lifeExp	pop	gdpPercap
Austria	Europe	1967	70.14000	7376998	12834.6024
Austria	Europe	1972	70.63000	7544201	16661.6256
Austria	Europe	1977	72.17000	7568430	19749.4223
Austria	Europe	1982	73.18000	7574613	21597.0836
Austria	Europe	1987	74.94000	7578903	23687.8261
Austria	Europe	1992	76.04000	7914969	27042.0187
Austria	Europe	1997	77.51000	8069876	29095.9207
Austria	Europe	2002	78.98000	8148312	32417.6077
Austria	Europe	2007	79.82900	8199783	36126.4927
Bahrain	Asia	1952	50.93900	120447	9867.0848
Bahrain	Asia	1957	53.83200	138655	11635.7995
Bahrain	Asia	1962	56.92300	171863	12753.2751
Bahrain	Asia	1967	59.92300	202182	14804.6727

country	continent	year	lifeExp	pop	gdpPercap
Bahrain	Asia	1972	63.30000	230800	18268.6584
Bahrain	Asia	1977	65.59300	297410	19340.1020
Bahrain	Asia	1982	69.05200	377967	19211.1473
Bahrain	Asia	1987	70.75000	454612	18524.0241
Bahrain	Asia	1992	72.60100	529491	19035.5792
Bahrain	Asia	1997	73.92500	598561	20292.0168
Bahrain	Asia	2002	74.79500	656397	23403.5593
Bahrain	Asia	2007	75.63500	708573	29796.0483
Bangladesh	Asia	1952	37.48400	46886859	684.2442
Bangladesh	Asia	1957	39.34800	51365468	661.6375
Bangladesh	Asia	1962	41.21600	56839289	686.3416
Bangladesh	Asia	1967	43.45300	62821884	721.1861
Bangladesh	Asia	1972	45.25200	70759295	630.2336

country	continent	year	lifeExp	pop	gdpPercap
Bangladesh	Asia	1977	46.92300	80428306	659.8772
Bangladesh	Asia	1982	50.00900	93074406	676.9819
Bangladesh	Asia	1987	52.81900	103764241	751.9794
Bangladesh	Asia	1992	56.01800	113704579	837.8102
Bangladesh	Asia	1997	59.41200	123315288	972.7700
Bangladesh	Asia	2002	62.01300	135656790	1136.3904
Bangladesh	Asia	2007	64.06200	150448339	1391.2538
Belgium	Europe	1952	68.00000	8730405	8343.1051
Belgium	Europe	1957	69.24000	8989111	9714.9606
Belgium	Europe	1962	70.25000	9218400	10991.2068
Belgium	Europe	1967	70.94000	9556500	13149.0412
Belgium	Europe	1972	71.44000	9709100	16672.1436
Belgium	Europe	1977	72.80000	9821800	19117.9745

country	continent	year	lifeExp	pop	gdpPercap
Belgium	Europe	1982	73.93000	9856303	20979.8459
Belgium	Europe	1987	75.35000	9870200	22525.5631
Belgium	Europe	1992	76.46000	10045622	25575.5707
Belgium	Europe	1997	77.53000	10199787	27561.1966
Belgium	Europe	2002	78.32000	10311970	30485.8838
Belgium	Europe	2007	79.44100	10392226	33692.6051
Benin	Africa	1952	38.22300	1738315	1062.7522
Benin	Africa	1957	40.35800	1925173	959.6011
Benin	Africa	1962	42.61800	2151895	949.4991
Benin	Africa	1967	44.88500	2427334	1035.8314
Benin	Africa	1972	47.01400	2761407	1085.7969
Benin	Africa	1977	49.19000	3168267	1029.1613
Benin	Africa	1982	50.90400	3641603	1277.8976

country	continent	year	lifeExp	pop	gdpPercap
Benin	Africa	1987	52.33700	4243788	1225.8560
Benin	Africa	1992	53.91900	4981671	1191.2077
Benin	Africa	1997	54.77700	6066080	1232.9753
Benin	Africa	2002	54.40600	7026113	1372.8779
Benin	Africa	2007	56.72800	8078314	1441.2849
Bolivia	Americas	1952	40.41400	2883315	2677.3263
Bolivia	Americas	1957	41.89000	3211738	2127.6863
Bolivia	Americas	1962	43.42800	3593918	2180.9725
Bolivia	Americas	1967	45.03200	4040665	2586.8861
Bolivia	Americas	1972	46.71400	4565872	2980.3313
Bolivia	Americas	1977	50.02300	5079716	3548.0978
Bolivia	Americas	1982	53.85900	5642224	3156.5105
Bolivia	Americas	1987	57.25100	6156369	2753.6915

country	continent	year	lifeExp	pop	gdpPercap
Bolivia	Americas	1992	59.95700	6893451	2961.6997
Bolivia	Americas	1997	62.05000	7693188	3326.1432
Bolivia	Americas	2002	63.88300	8445134	3413.2627
Bolivia	Americas	2007	65.55400	9119152	3822.1371
Bosnia and Herzegovina	Europe	1952	53.82000	2791000	973.5332
Bosnia and Herzegovina	Europe	1957	58.45000	3076000	1353.9892
Bosnia and Herzegovina	Europe	1962	61.93000	3349000	1709.6837
Bosnia and Herzegovina	Europe	1967	64.79000	3585000	2172.3524
Bosnia and Herzegovina	Europe	1972	67.45000	3819000	2860.1698

country	continent	year	lifeExp	pop	gdpPercap
Bosnia and Herzegovina	Europe	1977	69.86000	4086000	3528.4813
Bosnia and Herzegovina	Europe	1982	70.69000	4172693	4126.6132
Bosnia and Herzegovina	Europe	1987	71.14000	4338977	4314.1148
Bosnia and Herzegovina	Europe	1992	72.17800	4256013	2546.7814
Bosnia and Herzegovina	Europe	1997	73.24400	3607000	4766.3559
Bosnia and Herzegovina	Europe	2002	74.09000	4165416	6018.9752
Bosnia and Herzegovina	Europe	2007	74.85200	4552198	7446.2988
Botswana	Africa	1952	47.62200	442308	851.2411

country	continent	year	lifeExp	pop	gdpPercap
Botswana	Africa	1957	49.61800	474639	918.2325
Botswana	Africa	1962	51.52000	512764	983.6540
Botswana	Africa	1967	53.29800	553541	1214.7093
Botswana	Africa	1972	56.02400	619351	2263.6111
Botswana	Africa	1977	59.31900	781472	3214.8578
Botswana	Africa	1982	61.48400	970347	4551.1421
Botswana	Africa	1987	63.62200	1151184	6205.8839
Botswana	Africa	1992	62.74500	1342614	7954.1116
Botswana	Africa	1997	52.55600	1536536	8647.1423
Botswana	Africa	2002	46.63400	1630347	11003.6051
Botswana	Africa	2007	50.72800	1639131	12569.8518
Brazil	Americas	1952	50.91700	56602560	2108.9444
Brazil	Americas	1957	53.28500	65551171	2487.3660

country	continent	year	lifeExp	pop	gdpPercap
Brazil	Americas	1962	55.66500	76039390	3336.5858
Brazil	Americas	1967	57.63200	88049823	3429.8644
Brazil	Americas	1972	59.50400	100840058	4985.7115
Brazil	Americas	1977	61.48900	114313951	6660.1187
Brazil	Americas	1982	63.33600	128962939	7030.8359
Brazil	Americas	1987	65.20500	142938076	7807.0958
Brazil	Americas	1992	67.05700	155975974	6950.2830
Brazil	Americas	1997	69.38800	168546719	7957.9808
Brazil	Americas	2002	71.00600	179914212	8131.2128
Brazil	Americas	2007	72.39000	190010647	9065.8008
Bulgaria	Europe	1952	59.60000	7274900	2444.2866
Bulgaria	Europe	1957	66.61000	7651254	3008.6707
Bulgaria	Europe	1962	69.51000	8012946	4254.3378

country	continent	year	lifeExp	pop	gdpPercap
Bulgaria	Europe	1967	70.42000	8310226	5577.0028
Bulgaria	Europe	1972	70.90000	8576200	6597.4944
Bulgaria	Europe	1977	70.81000	8797022	7612.2404
Bulgaria	Europe	1982	71.08000	8892098	8224.1916
Bulgaria	Europe	1987	71.34000	8971958	8239.8548
Bulgaria	Europe	1992	71.19000	8658506	6302.6234
Bulgaria	Europe	1997	70.32000	8066057	5970.3888
Bulgaria	Europe	2002	72.14000	7661799	7696.7777
Bulgaria	Europe	2007	73.00500	7322858	10680.7928
Burkina Faso	Africa	1952	31.97500	4469979	543.2552
Burkina Faso	Africa	1957	34.90600	4713416	617.1835
Burkina Faso	Africa	1962	37.81400	4919632	722.5120
Burkina Faso	Africa	1967	40.69700	5127935	794.8266

country	continent	year	lifeExp	pop	gdpPercap
Burkina Faso	Africa	1972	43.59100	5433886	854.7360
Burkina Faso	Africa	1977	46.13700	5889574	743.3870
Burkina Faso	Africa	1982	48.12200	6634596	807.1986
Burkina Faso	Africa	1987	49.55700	7586551	912.0631
Burkina Faso	Africa	1992	50.26000	8878303	931.7528
Burkina Faso	Africa	1997	50.32400	10352843	946.2950
Burkina Faso	Africa	2002	50.65000	12251209	1037.6452
Burkina Faso	Africa	2007	52.29500	14326203	1217.0330
Burundi	Africa	1952	39.03100	2445618	339.2965
Burundi	Africa	1957	40.53300	2667518	379.5646
Burundi	Africa	1962	42.04500	2961915	355.2032
Burundi	Africa	1967	43.54800	3330989	412.9775
Burundi	Africa	1972	44.05700	3529983	464.0995

country	continent	year	lifeExp	pop	gdpPercap
Burundi	Africa	1977	45.91000	3834415	556.1033
Burundi	Africa	1982	47.47100	4580410	559.6032
Burundi	Africa	1987	48.21100	5126023	621.8188
Burundi	Africa	1992	44.73600	5809236	631.6999
Burundi	Africa	1997	45.32600	6121610	463.1151
Burundi	Africa	2002	47.36000	7021078	446.4035
Burundi	Africa	2007	49.58000	8390505	430.0707
Cambodia	Asia	1952	39.41700	4693836	368.4693
Cambodia	Asia	1957	41.36600	5322536	434.0383
Cambodia	Asia	1962	43.41500	6083619	496.9136
Cambodia	Asia	1967	45.41500	6960067	523.4323
Cambodia	Asia	1972	40.31700	7450606	421.6240
Cambodia	Asia	1977	31.22000	6978607	524.9722

country	continent	year	lifeExp	pop	gdpPercap
Cambodia	Asia	1982	50.95700	7272485	624.4755
Cambodia	Asia	1987	53.91400	8371791	683.8956
Cambodia	Asia	1992	55.80300	10150094	682.3032
Cambodia	Asia	1997	56.53400	11782962	734.2852
Cambodia	Asia	2002	56.75200	12926707	896.2260
Cambodia	Asia	2007	59.72300	14131858	1713.7787
Cameroon	Africa	1952	38.52300	5009067	1172.6677
Cameroon	Africa	1957	40.42800	5359923	1313.0481
Cameroon	Africa	1962	42.64300	5793633	1399.6074
Cameroon	Africa	1967	44.79900	6335506	1508.4531
Cameroon	Africa	1972	47.04900	7021028	1684.1465
Cameroon	Africa	1977	49.35500	7959865	1783.4329
Cameroon	Africa	1982	52.96100	9250831	2367.9833

country	continent	year	lifeExp	pop	gdpPercap
Cameroon	Africa	1987	54.98500	10780667	2602.6642
Cameroon	Africa	1992	54.31400	12467171	1793.1633
Cameroon	Africa	1997	52.19900	14195809	1694.3375
Cameroon	Africa	2002	49.85600	15929988	1934.0114
Cameroon	Africa	2007	50.43000	17696293	2042.0952
Canada	Americas	1952	68.75000	14785584	11367.1611
Canada	Americas	1957	69.96000	17010154	12489.9501
Canada	Americas	1962	71.30000	18985849	13462.4855
Canada	Americas	1967	72.13000	20819767	16076.5880
Canada	Americas	1972	72.88000	22284500	18970.5709
Canada	Americas	1977	74.21000	23796400	22090.8831
Canada	Americas	1982	75.76000	25201900	22898.7921
Canada	Americas	1987	76.86000	26549700	26626.5150

country	continent	year	lifeExp	pop	gdpPercap
Canada	Americas	1992	77.95000	28523502	26342.8843
Canada	Americas	1997	78.61000	30305843	28954.9259
Canada	Americas	2002	79.77000	31902268	33328.9651
Canada	Americas	2007	80.65300	33390141	36319.2350
Central African Republic	Africa	1952	35.46300	1291695	1071.3107
Central African Republic	Africa	1957	37.46400	1392284	1190.8443
Central African Republic	Africa	1962	39.47500	1523478	1193.0688
Central African Republic	Africa	1967	41.47800	1733638	1136.0566
Central African Republic	Africa	1972	43.45700	1927260	1070.0133

country	continent	year	lifeExp	pop	gdpPercap
Central African Republic	Africa	1977	46.77500	2167533	1109.3743
Central African Republic	Africa	1982	48.29500	2476971	956.7530
Central African Republic	Africa	1987	50.48500	2840009	844.8764
Central African Republic	Africa	1992	49.39600	3265124	747.9055
Central African Republic	Africa	1997	46.06600	3696513	740.5063
Central African Republic	Africa	2002	43.30800	4048013	738.6906
Central African Republic	Africa	2007	44.74100	4369038	706.0165
Chad	Africa	1952	38.09200	2682462	1178.6659

country	continent	year	lifeExp	pop	gdpPercap
Chad	Africa	1957	39.88100	2894855	1308.4956
Chad	Africa	1962	41.71600	3150417	1389.8176
Chad	Africa	1967	43.60100	3495967	1196.8106
Chad	Africa	1972	45.56900	3899068	1104.1040
Chad	Africa	1977	47.38300	4388260	1133.9850
Chad	Africa	1982	49.51700	4875118	797.9081
Chad	Africa	1987	51.05100	5498955	952.3861
Chad	Africa	1992	51.72400	6429417	1058.0643
Chad	Africa	1997	51.57300	7562011	1004.9614
Chad	Africa	2002	50.52500	8835739	1156.1819
Chad	Africa	2007	50.65100	10238807	1704.0637
Chile	Americas	1952	54.74500	6377619	3939.9788
Chile	Americas	1957	56.07400	7048426	4315.6227

country	continent	year	lifeExp	pop	gdpPercap
Chile	Americas	1962	57.92400	7961258	4519.0943
Chile	Americas	1967	60.52300	8858908	5106.6543
Chile	Americas	1972	63.44100	9717524	5494.0244
Chile	Americas	1977	67.05200	10599793	4756.7638
Chile	Americas	1982	70.56500	11487112	5095.6657
Chile	Americas	1987	72.49200	12463354	5547.0638
Chile	Americas	1992	74.12600	13572994	7596.1260
Chile	Americas	1997	75.81600	14599929	10118.0532
Chile	Americas	2002	77.86000	15497046	10778.7838
Chile	Americas	2007	78.55300	16284741	13171.6388
China	Asia	1952	44.00000	556263527	400.4486
China	Asia	1957	50.54896	637408000	575.9870
China	Asia	1962	44.50136	665770000	487.6740

country	continent	year	lifeExp	pop	gdpPercap
China	Asia	1967	58.38112	754550000	612.7057
China	Asia	1972	63.11888	862030000	676.9001
China	Asia	1977	63.96736	943455000	741.2375
China	Asia	1982	65.52500	1000281000	962.4214
China	Asia	1987	67.27400	1084035000	1378.9040
China	Asia	1992	68.69000	1164970000	1655.7842
China	Asia	1997	70.42600	1230075000	2289.2341
China	Asia	2002	72.02800	1280400000	3119.2809
China	Asia	2007	72.96100	1318683096	4959.1149
Colombia	Americas	1952	50.64300	12350771	2144.1151
Colombia	Americas	1957	55.11800	14485993	2323.8056
Colombia	Americas	1962	57.86300	17009885	2492.3511
Colombia	Americas	1967	59.96300	19764027	2678.7298

country	continent	year	lifeExp	pop	gdpPercap
Colombia	Americas	1972	61.62300	22542890	3264.6600
Colombia	Americas	1977	63.83700	25094412	3815.8079
Colombia	Americas	1982	66.65300	27764644	4397.5757
Colombia	Americas	1987	67.76800	30964245	4903.2191
Colombia	Americas	1992	68.42100	34202721	5444.6486
Colombia	Americas	1997	70.31300	37657830	6117.3617
Colombia	Americas	2002	71.68200	41008227	5755.2600
Colombia	Americas	2007	72.88900	44227550	7006.5804
Comoros	Africa	1952	40.71500	153936	1102.9909
Comoros	Africa	1957	42.46000	170928	1211.1485
Comoros	Africa	1962	44.46700	191689	1406.6483
Comoros	Africa	1967	46.47200	217378	1876.0296
Comoros	Africa	1972	48.94400	250027	1937.5777

country	continent	year	lifeExp	pop	gdpPercap
Comoros	Africa	1977	50.93900	304739	1172.6030
Comoros	Africa	1982	52.93300	348643	1267.1001
Comoros	Africa	1987	54.92600	395114	1315.9808
Comoros	Africa	1992	57.93900	454429	1246.9074
Comoros	Africa	1997	60.66000	527982	1173.6182
Comoros	Africa	2002	62.97400	614382	1075.8116
Comoros	Africa	2007	65.15200	710960	986.1479
Congo, Dem. Rep.	Africa	1952	39.14300	14100005	780.5423
Congo, Dem. Rep.	Africa	1957	40.65200	15577932	905.8602
Congo, Dem. Rep.	Africa	1962	42.12200	17486434	896.3146
Congo, Dem. Rep.	Africa	1967	44.05600	19941073	861.5932
Congo, Dem. Rep.	Africa	1972	45.98900	23007669	904.8961
Congo, Dem. Rep.	Africa	1977	47.80400	26480870	795.7573

country	continent	year	lifeExp	pop	gdpPercap
Congo, Dem. Rep.	Africa	1982	47.78400	30646495	673.7478
Congo, Dem. Rep.	Africa	1987	47.41200	35481645	672.7748
Congo, Dem. Rep.	Africa	1992	45.54800	41672143	457.7192
Congo, Dem. Rep.	Africa	1997	42.58700	47798986	312.1884
Congo, Dem. Rep.	Africa	2002	44.96600	55379852	241.1659
Congo, Dem. Rep.	Africa	2007	46.46200	64606759	277.5519
Congo, Rep.	Africa	1952	42.11100	854885	2125.6214
Congo, Rep.	Africa	1957	45.05300	940458	2315.0566
Congo, Rep.	Africa	1962	48.43500	1047924	2464.7832
Congo, Rep.	Africa	1967	52.04000	1179760	2677.9396
Congo, Rep.	Africa	1972	54.90700	1340458	3213.1527
Congo, Rep.	Africa	1977	55.62500	1536769	3259.1790
Congo, Rep.	Africa	1982	56.69500	1774735	4879.5075

country	continent	year	lifeExp	pop	gdpPercap
Congo, Rep.	Africa	1987	57.47000	2064095	4201.1949
Congo, Rep.	Africa	1992	56.43300	2409073	4016.2395
Congo, Rep.	Africa	1997	52.96200	2800947	3484.1644
Congo, Rep.	Africa	2002	52.97000	3328795	3484.0620
Congo, Rep.	Africa	2007	55.32200	3800610	3632.5578
Costa Rica	Americas	1952	57.20600	926317	2627.0095
Costa Rica	Americas	1957	60.02600	1112300	2990.0108
Costa Rica	Americas	1962	62.84200	1345187	3460.9370
Costa Rica	Americas	1967	65.42400	1588717	4161.7278
Costa Rica	Americas	1972	67.84900	1834796	5118.1469
Costa Rica	Americas	1977	70.75000	2108457	5926.8770
Costa Rica	Americas	1982	73.45000	2424367	5262.7348
Costa Rica	Americas	1987	74.75200	2799811	5629.9153

country	continent	year	lifeExp	pop	gdpPercap
Costa Rica	Americas	1992	75.71300	3173216	6160.4163
Costa Rica	Americas	1997	77.26000	3518107	6677.0453
Costa Rica	Americas	2002	78.12300	3834934	7723.4472
Costa Rica	Americas	2007	78.78200	4133884	9645.0614
Cote d'Ivoire	Africa	1952	40.47700	2977019	1388.5947
Cote d'Ivoire	Africa	1957	42.46900	3300000	1500.8959
Cote d'Ivoire	Africa	1962	44.93000	3832408	1728.8694
Cote d'Ivoire	Africa	1967	47.35000	4744870	2052.0505
Cote d'Ivoire	Africa	1972	49.80100	6071696	2378.2011
Cote d'Ivoire	Africa	1977	52.37400	7459574	2517.7365
Cote d'Ivoire	Africa	1982	53.98300	9025951	2602.7102
Cote d'Ivoire	Africa	1987	54.65500	10761098	2156.9561
Cote d'Ivoire	Africa	1992	52.04400	12772596	1648.0738

country	continent	year	lifeExp	pop	gdpPercap
Cote d'Ivoire	Africa	1997	47.99100	14625967	1786.2654
Cote d'Ivoire	Africa	2002	46.83200	16252726	1648.8008
Cote d'Ivoire	Africa	2007	48.32800	18013409	1544.7501
Croatia	Europe	1952	61.21000	3882229	3119.2365
Croatia	Europe	1957	64.77000	3991242	4338.2316
Croatia	Europe	1962	67.13000	4076557	5477.8900
Croatia	Europe	1967	68.50000	4174366	6960.2979
Croatia	Europe	1972	69.61000	4225310	9164.0901
Croatia	Europe	1977	70.64000	4318673	11305.3852
Croatia	Europe	1982	70.46000	4413368	13221.8218
Croatia	Europe	1987	71.52000	4484310	13822.5839
Croatia	Europe	1992	72.52700	4494013	8447.7949
Croatia	Europe	1997	73.68000	4444595	9875.6045

country	continent	year	lifeExp	pop	gdpPercap
Croatia	Europe	2002	74.87600	4481020	11628.3890
Croatia	Europe	2007	75.74800	4493312	14619.2227
Cuba	Americas	1952	59.42100	6007797	5586.5388
Cuba	Americas	1957	62.32500	6640752	6092.1744
Cuba	Americas	1962	65.24600	7254373	5180.7559
Cuba	Americas	1967	68.29000	8139332	5690.2680
Cuba	Americas	1972	70.72300	8831348	5305.4453
Cuba	Americas	1977	72.64900	9537988	6380.4950
Cuba	Americas	1982	73.71700	9789224	7316.9181
Cuba	Americas	1987	74.17400	10239839	7532.9248
Cuba	Americas	1992	74.41400	10723260	5592.8440
Cuba	Americas	1997	76.15100	10983007	5431.9904
Cuba	Americas	2002	77.15800	11226999	6340.6467

country	continent	year	lifeExp	pop	gdpPercap
Cuba	Americas	2007	78.27300	11416987	8948.1029
Czech Republic	Europe	1952	66.87000	9125183	6876.1403
Czech Republic	Europe	1957	69.03000	9513758	8256.3439
Czech Republic	Europe	1962	69.90000	9620282	10136.8671
Czech Republic	Europe	1967	70.38000	9835109	11399.4449
Czech Republic	Europe	1972	70.29000	9862158	13108.4536
Czech Republic	Europe	1977	70.71000	10161915	14800.1606
Czech Republic	Europe	1982	70.96000	10303704	15377.2285
Czech Republic	Europe	1987	71.58000	10311597	16310.4434
Czech Republic	Europe	1992	72.40000	10315702	14297.0212
Czech Republic	Europe	1997	74.01000	10300707	16048.5142
Czech Republic	Europe	2002	75.51000	10256295	17596.2102
Czech Republic	Europe	2007	76.48600	10228744	22833.3085

country	continent	year	lifeExp	pop	gdpPercap
Denmark	Europe	1952	70.78000	4334000	9692.3852
Denmark	Europe	1957	71.81000	4487831	11099.6593
Denmark	Europe	1962	72.35000	4646899	13583.3135
Denmark	Europe	1967	72.96000	4838800	15937.2112
Denmark	Europe	1972	73.47000	4991596	18866.2072
Denmark	Europe	1977	74.69000	5088419	20422.9015
Denmark	Europe	1982	74.63000	5117810	21688.0405
Denmark	Europe	1987	74.80000	5127024	25116.1758
Denmark	Europe	1992	75.33000	5171393	26406.7399
Denmark	Europe	1997	76.11000	5283663	29804.3457
Denmark	Europe	2002	77.18000	5374693	32166.5001
Denmark	Europe	2007	78.33200	5468120	35278.4187
Djibouti	Africa	1952	34.81200	63149	2669.5295

country	continent	year	lifeExp	pop	gdpPercap
Djibouti	Africa	1957	37.32800	71851	2864.9691
Djibouti	Africa	1962	39.69300	89898	3020.9893
Djibouti	Africa	1967	42.07400	127617	3020.0505
Djibouti	Africa	1972	44.36600	178848	3694.2124
Djibouti	Africa	1977	46.51900	228694	3081.7610
Djibouti	Africa	1982	48.81200	305991	2879.4681
Djibouti	Africa	1987	50.04000	311025	2880.1026
Djibouti	Africa	1992	51.60400	384156	2377.1562
Djibouti	Africa	1997	53.15700	417908	1895.0170
Djibouti	Africa	2002	53.37300	447416	1908.2609
Djibouti	Africa	2007	54.79100	496374	2082.4816
Dominican Republic	Americas	1952	45.92800	2491346	1397.7171
Dominican Republic	Americas	1957	49.82800	2923186	1544.4030

country	continent	year	lifeExp	pop	gdpPercap
Dominican Republic	Americas	1962	53.45900	3453434	1662.1374
Dominican Republic	Americas	1967	56.75100	4049146	1653.7230
Dominican Republic	Americas	1972	59.63100	4671329	2189.8745
Dominican Republic	Americas	1977	61.78800	5302800	2681.9889
Dominican Republic	Americas	1982	63.72700	5968349	2861.0924
Dominican Republic	Americas	1987	66.04600	6655297	2899.8422
Dominican Republic	Americas	1992	68.45700	7351181	3044.2142
Dominican Republic	Americas	1997	69.95700	7992357	3614.1013
Dominican Republic	Americas	2002	70.84700	8650322	4563.8082
Dominican Republic	Americas	2007	72.23500	9319622	6025.3748
Ecuador	Americas	1952	48.35700	3548753	3522.1107
Ecuador	Americas	1957	51.35600	4058385	3780.5467
Ecuador	Americas	1962	54.64000	4681707	4086.1141

country	continent	year	lifeExp	pop	gdpPercap
Ecuador	Americas	1967	56.67800	5432424	4579.0742
Ecuador	Americas	1972	58.79600	6298651	5280.9947
Ecuador	Americas	1977	61.31000	7278866	6679.6233
Ecuador	Americas	1982	64.34200	8365850	7213.7913
Ecuador	Americas	1987	67.23100	9545158	6481.7770
Ecuador	Americas	1992	69.61300	10748394	7103.7026
Ecuador	Americas	1997	72.31200	11911819	7429.4559
Ecuador	Americas	2002	74.17300	12921234	5773.0445
Ecuador	Americas	2007	74.99400	13755680	6873.2623
Egypt	Africa	1952	41.89300	22223309	1418.8224
Egypt	Africa	1957	44.44400	25009741	1458.9153
Egypt	Africa	1962	46.99200	28173309	1693.3359
Egypt	Africa	1967	49.29300	31681188	1814.8807

country	continent	year	lifeExp	pop	gdpPercap
Egypt	Africa	1972	51.13700	34807417	2024.0081
Egypt	Africa	1977	53.31900	38783863	2785.4936
Egypt	Africa	1982	56.00600	45681811	3503.7296
Egypt	Africa	1987	59.79700	52799062	3885.4607
Egypt	Africa	1992	63.67400	59402198	3794.7552
Egypt	Africa	1997	67.21700	66134291	4173.1818
Egypt	Africa	2002	69.80600	73312559	4754.6044
Egypt	Africa	2007	71.33800	80264543	5581.1810
El Salvador	Americas	1952	45.26200	2042865	3048.3029
El Salvador	Americas	1957	48.57000	2355805	3421.5232
El Salvador	Americas	1962	52.30700	2747687	3776.8036
El Salvador	Americas	1967	55.85500	3232927	4358.5954
El Salvador	Americas	1972	58.20700	3790903	4520.2460

country	continent	year	lifeExp	pop	gdpPercap
El Salvador	Americas	1977	56.69600	4282586	5138.9224
El Salvador	Americas	1982	56.60400	4474873	4098.3442
El Salvador	Americas	1987	63.15400	4842194	4140.4421
El Salvador	Americas	1992	66.79800	5274649	4444.2317
El Salvador	Americas	1997	69.53500	5783439	5154.8255
El Salvador	Americas	2002	70.73400	6353681	5351.5687
El Salvador	Americas	2007	71.87800	6939688	5728.3535
Equatorial Guinea	Africa	1952	34.48200	216964	375.6431
Equatorial Guinea	Africa	1957	35.98300	232922	426.0964
Equatorial Guinea	Africa	1962	37.48500	249220	582.8420
Equatorial Guinea	Africa	1967	38.98700	259864	915.5960
Equatorial Guinea	Africa	1972	40.51600	277603	672.4123
Equatorial Guinea	Africa	1977	42.02400	192675	958.5668

country	continent	year	lifeExp	pop	gdpPercap
Equatorial Guinea	Africa	1982	43.66200	285483	927.8253
Equatorial Guinea	Africa	1987	45.66400	341244	966.8968
Equatorial Guinea	Africa	1992	47.54500	387838	1132.0550
Equatorial Guinea	Africa	1997	48.24500	439971	2814.4808
Equatorial Guinea	Africa	2002	49.34800	495627	7703.4959
Equatorial Guinea	Africa	2007	51.57900	551201	12154.0897
Eritrea	Africa	1952	35.92800	1438760	328.9406
Eritrea	Africa	1957	38.04700	1542611	344.1619
Eritrea	Africa	1962	40.15800	1666618	380.9958
Eritrea	Africa	1967	42.18900	1820319	468.7950
Eritrea	Africa	1972	44.14200	2260187	514.3242
Eritrea	Africa	1977	44.53500	2512642	505.7538
Eritrea	Africa	1982	43.89000	2637297	524.8758

country	continent	year	lifeExp	pop	gdpPercap
Eritrea	Africa	1987	46.45300	2915959	521.1341
Eritrea	Africa	1992	49.99100	3668440	582.8585
Eritrea	Africa	1997	53.37800	4058319	913.4708
Eritrea	Africa	2002	55.24000	4414865	765.3500
Eritrea	Africa	2007	58.04000	4906585	641.3695
Ethiopia	Africa	1952	34.07800	20860941	362.1463
Ethiopia	Africa	1957	36.66700	22815614	378.9042
Ethiopia	Africa	1962	40.05900	25145372	419.4564
Ethiopia	Africa	1967	42.11500	27860297	516.1186
Ethiopia	Africa	1972	43.51500	30770372	566.2439
Ethiopia	Africa	1977	44.51000	34617799	556.8084
Ethiopia	Africa	1982	44.91600	38111756	577.8607
Ethiopia	Africa	1987	46.68400	42999530	573.7413

country	continent	year	lifeExp	pop	gdpPercap
Ethiopia	Africa	1992	48.09100	52088559	421.3535
Ethiopia	Africa	1997	49.40200	59861301	515.8894
Ethiopia	Africa	2002	50.72500	67946797	530.0535
Ethiopia	Africa	2007	52.94700	76511887	690.8056
Finland	Europe	1952	66.55000	4090500	6424.5191
Finland	Europe	1957	67.49000	4324000	7545.4154
Finland	Europe	1962	68.75000	4491443	9371.8426
Finland	Europe	1967	69.83000	4605744	10921.6363
Finland	Europe	1972	70.87000	4639657	14358.8759
Finland	Europe	1977	72.52000	4738902	15605.4228
Finland	Europe	1982	74.55000	4826933	18533.1576
Finland	Europe	1987	74.83000	4931729	21141.0122
Finland	Europe	1992	75.70000	5041039	20647.1650

country	continent	year	lifeExp	pop	gdpPercap
Finland	Europe	1997	77.13000	5134406	23723.9502
Finland	Europe	2002	78.37000	5193039	28204.5906
Finland	Europe	2007	79.31300	5238460	33207.0844
France	Europe	1952	67.41000	42459667	7029.8093
France	Europe	1957	68.93000	44310863	8662.8349
France	Europe	1962	70.51000	47124000	10560.4855
France	Europe	1967	71.55000	49569000	12999.9177
France	Europe	1972	72.38000	51732000	16107.1917
France	Europe	1977	73.83000	53165019	18292.6351
France	Europe	1982	74.89000	54433565	20293.8975
France	Europe	1987	76.34000	55630100	22066.4421
France	Europe	1992	77.46000	57374179	24703.7961
France	Europe	1997	78.64000	58623428	25889.7849

country	continent	year	lifeExp	pop	gdpPercap
France	Europe	2002	79.59000	59925035	28926.0323
France	Europe	2007	80.65700	61083916	30470.0167
Gabon	Africa	1952	37.00300	420702	4293.4765
Gabon	Africa	1957	38.99900	434904	4976.1981
Gabon	Africa	1962	40.48900	455661	6631.4592
Gabon	Africa	1967	44.59800	489004	8358.7620
Gabon	Africa	1972	48.69000	537977	11401.9484
Gabon	Africa	1977	52.79000	706367	21745.5733
Gabon	Africa	1982	56.56400	753874	15113.3619
Gabon	Africa	1987	60.19000	880397	11864.4084
Gabon	Africa	1992	61.36600	985739	13522.1575
Gabon	Africa	1997	60.46100	1126189	14722.8419
Gabon	Africa	2002	56.76100	1299304	12521.7139

country	continent	year	lifeExp	pop	gdpPercap
Gabon	Africa	2007	56.73500	1454867	13206.4845
Gambia	Africa	1952	30.00000	284320	485.2307
Gambia	Africa	1957	32.06500	323150	520.9267
Gambia	Africa	1962	33.89600	374020	599.6503
Gambia	Africa	1967	35.85700	439593	734.7829
Gambia	Africa	1972	38.30800	517101	756.0868
Gambia	Africa	1977	41.84200	608274	884.7553
Gambia	Africa	1982	45.58000	715523	835.8096
Gambia	Africa	1987	49.26500	848406	611.6589
Gambia	Africa	1992	52.64400	1025384	665.6244
Gambia	Africa	1997	55.86100	1235767	653.7302
Gambia	Africa	2002	58.04100	1457766	660.5856
Gambia	Africa	2007	59.44800	1688359	752.7497

country	continent	year	lifeExp	pop	gdpPercap
Germany	Europe	1952	67.50000	69145952	7144.1144
Germany	Europe	1957	69.10000	71019069	10187.8267
Germany	Europe	1962	70.30000	73739117	12902.4629
Germany	Europe	1967	70.80000	76368453	14745.6256
Germany	Europe	1972	71.00000	78717088	18016.1803
Germany	Europe	1977	72.50000	78160773	20512.9212
Germany	Europe	1982	73.80000	78335266	22031.5327
Germany	Europe	1987	74.84700	77718298	24639.1857
Germany	Europe	1992	76.07000	80597764	26505.3032
Germany	Europe	1997	77.34000	82011073	27788.8842
Germany	Europe	2002	78.67000	82350671	30035.8020
Germany	Europe	2007	79.40600	82400996	32170.3744
Ghana	Africa	1952	43.14900	5581001	911.2989

country	continent	year	lifeExp	pop	gdpPercap
Ghana	Africa	1957	44.77900	6391288	1043.5615
Ghana	Africa	1962	46.45200	7355248	1190.0411
Ghana	Africa	1967	48.07200	8490213	1125.6972
Ghana	Africa	1972	49.87500	9354120	1178.2237
Ghana	Africa	1977	51.75600	10538093	993.2240
Ghana	Africa	1982	53.74400	11400338	876.0326
Ghana	Africa	1987	55.72900	14168101	847.0061
Ghana	Africa	1992	57.50100	16278738	925.0602
Ghana	Africa	1997	58.55600	18418288	1005.2458
Ghana	Africa	2002	58.45300	20550751	1111.9846
Ghana	Africa	2007	60.02200	22873338	1327.6089
Greece	Europe	1952	65.86000	7733250	3530.6901
Greece	Europe	1957	67.86000	8096218	4916.2999

country	continent	year	lifeExp	pop	gdpPercap
Greece	Europe	1962	69.51000	8448233	6017.1907
Greece	Europe	1967	71.00000	8716441	8513.0970
Greece	Europe	1972	72.34000	8888628	12724.8296
Greece	Europe	1977	73.68000	9308479	14195.5243
Greece	Europe	1982	75.24000	9786480	15268.4209
Greece	Europe	1987	76.67000	9974490	16120.5284
Greece	Europe	1992	77.03000	10325429	17541.4963
Greece	Europe	1997	77.86900	10502372	18747.6981
Greece	Europe	2002	78.25600	10603863	22514.2548
Greece	Europe	2007	79.48300	10706290	27538.4119
Guatemala	Americas	1952	42.02300	3146381	2428.2378
Guatemala	Americas	1957	44.14200	3640876	2617.1560
Guatemala	Americas	1962	46.95400	4208858	2750.3644

country	continent	year	lifeExp	pop	gdpPercap
Guatemala	Americas	1967	50.01600	4690773	3242.5311
Guatemala	Americas	1972	53.73800	5149581	4031.4083
Guatemala	Americas	1977	56.02900	5703430	4879.9927
Guatemala	Americas	1982	58.13700	6395630	4820.4948
Guatemala	Americas	1987	60.78200	7326406	4246.4860
Guatemala	Americas	1992	63.37300	8486949	4439.4508
Guatemala	Americas	1997	66.32200	9803875	4684.3138
Guatemala	Americas	2002	68.97800	11178650	4858.3475
Guatemala	Americas	2007	70.25900	12572928	5186.0500
Guinea	Africa	1952	33.60900	2664249	510.1965
Guinea	Africa	1957	34.55800	2876726	576.2670
Guinea	Africa	1962	35.75300	3140003	686.3737
Guinea	Africa	1967	37.19700	3451418	708.7595

country	continent	year	lifeExp	pop	gdpPercap
Guinea	Africa	1972	38.84200	3811387	741.6662
Guinea	Africa	1977	40.76200	4227026	874.6859
Guinea	Africa	1982	42.89100	4710497	857.2504
Guinea	Africa	1987	45.55200	5650262	805.5725
Guinea	Africa	1992	48.57600	6990574	794.3484
Guinea	Africa	1997	51.45500	8048834	869.4498
Guinea	Africa	2002	53.67600	8807818	945.5836
Guinea	Africa	2007	56.00700	9947814	942.6542
Guinea-Bissau	Africa	1952	32.50000	580653	299.8503
Guinea-Bissau	Africa	1957	33.48900	601095	431.7905
Guinea-Bissau	Africa	1962	34.48800	627820	522.0344
Guinea-Bissau	Africa	1967	35.49200	601287	715.5806
Guinea-Bissau	Africa	1972	36.48600	625361	820.2246

country	continent	year	lifeExp	pop	gdpPercap
Guinea-Bissau	Africa	1977	37.46500	745228	764.7260
Guinea-Bissau	Africa	1982	39.32700	825987	838.1240
Guinea-Bissau	Africa	1987	41.24500	927524	736.4154
Guinea-Bissau	Africa	1992	43.26600	1050938	745.5399
Guinea-Bissau	Africa	1997	44.87300	1193708	796.6645
Guinea-Bissau	Africa	2002	45.50400	1332459	575.7047
Guinea-Bissau	Africa	2007	46.38800	1472041	579.2317
Haiti	Americas	1952	37.57900	3201488	1840.3669
Haiti	Americas	1957	40.69600	3507701	1726.8879
Haiti	Americas	1962	43.59000	3880130	1796.5890
Haiti	Americas	1967	46.24300	4318137	1452.0577
Haiti	Americas	1972	48.04200	4698301	1654.4569
Haiti	Americas	1977	49.92300	4908554	1874.2989

country	continent	year	lifeExp	pop	gdpPercap
Haiti	Americas	1982	51.46100	5198399	2011.1595
Haiti	Americas	1987	53.63600	5756203	1823.0160
Haiti	Americas	1992	55.08900	6326682	1456.3095
Haiti	Americas	1997	56.67100	6913545	1341.7269
Haiti	Americas	2002	58.13700	7607651	1270.3649
Haiti	Americas	2007	60.91600	8502814	1201.6372
Honduras	Americas	1952	41.91200	1517453	2194.9262
Honduras	Americas	1957	44.66500	1770390	2220.4877
Honduras	Americas	1962	48.04100	2090162	2291.1568
Honduras	Americas	1967	50.92400	2500689	2538.2694
Honduras	Americas	1972	53.88400	2965146	2529.8423
Honduras	Americas	1977	57.40200	3055235	3203.2081
Honduras	Americas	1982	60.90900	3669448	3121.7608

country	continent	year	lifeExp	pop	gdpPercap
Honduras	Americas	1987	64.49200	4372203	3023.0967
Honduras	Americas	1992	66.39900	5077347	3081.6946
Honduras	Americas	1997	67.65900	5867957	3160.4549
Honduras	Americas	2002	68.56500	6677328	3099.7287
Honduras	Americas	2007	70.19800	7483763	3548.3308
Hong Kong, China	Asia	1952	60.96000	2125900	3054.4212
Hong Kong, China	Asia	1957	64.75000	2736300	3629.0765
Hong Kong, China	Asia	1962	67.65000	3305200	4692.6483
Hong Kong, China	Asia	1967	70.00000	3722800	6197.9628
Hong Kong, China	Asia	1972	72.00000	4115700	8315.9281
Hong Kong, China	Asia	1977	73.60000	4583700	11186.1413
Hong Kong, China	Asia	1982	75.45000	5264500	14560.5305
Hong Kong, China	Asia	1987	76.20000	5584510	20038.4727

country	continent	year	lifeExp	pop	gdpPercap
Hong Kong, China	Asia	1992	77.60100	5829696	24757.6030
Hong Kong, China	Asia	1997	80.00000	6495918	28377.6322
Hong Kong, China	Asia	2002	81.49500	6762476	30209.0152
Hong Kong, China	Asia	2007	82.20800	6980412	39724.9787
Hungary	Europe	1952	64.03000	9504000	5263.6738
Hungary	Europe	1957	66.41000	9839000	6040.1800
Hungary	Europe	1962	67.96000	10063000	7550.3599
Hungary	Europe	1967	69.50000	10223422	9326.6447
Hungary	Europe	1972	69.76000	10394091	10168.6561
Hungary	Europe	1977	69.95000	10637171	11674.8374
Hungary	Europe	1982	69.39000	10705535	12545.9907
Hungary	Europe	1987	69.58000	10612740	12986.4800
Hungary	Europe	1992	69.17000	10348684	10535.6285

country	continent	year	lifeExp	pop	gdpPercap
Hungary	Europe	1997	71.04000	10244684	11712.7768
Hungary	Europe	2002	72.59000	10083313	14843.9356
Hungary	Europe	2007	73.33800	9956108	18008.9444
Iceland	Europe	1952	72.49000	147962	7267.6884
Iceland	Europe	1957	73.47000	165110	9244.0014
Iceland	Europe	1962	73.68000	182053	10350.1591
Iceland	Europe	1967	73.73000	198676	13319.8957
Iceland	Europe	1972	74.46000	209275	15798.0636
Iceland	Europe	1977	76.11000	221823	19654.9625
Iceland	Europe	1982	76.99000	233997	23269.6075
Iceland	Europe	1987	77.23000	244676	26923.2063
Iceland	Europe	1992	78.77000	259012	25144.3920
Iceland	Europe	1997	78.95000	271192	28061.0997

country	continent	year	lifeExp	pop	gdpPercap
Iceland	Europe	2002	80.50000	288030	31163.2020
Iceland	Europe	2007	81.75700	301931	36180.7892
India	Asia	1952	37.37300	372000000	546.5657
India	Asia	1957	40.24900	409000000	590.0620
India	Asia	1962	43.60500	454000000	658.3472
India	Asia	1967	47.19300	506000000	700.7706
India	Asia	1972	50.65100	567000000	724.0325
India	Asia	1977	54.20800	634000000	813.3373
India	Asia	1982	56.59600	708000000	855.7235
India	Asia	1987	58.55300	788000000	976.5127
India	Asia	1992	60.22300	872000000	1164.4068
India	Asia	1997	61.76500	959000000	1458.8174
India	Asia	2002	62.87900	1034172547	1746.7695

country	continent	year	lifeExp	pop	gdpPercap
India	Asia	2007	64.69800	1110396331	2452.2104
Indonesia	Asia	1952	37.46800	82052000	749.6817
Indonesia	Asia	1957	39.91800	90124000	858.9003
Indonesia	Asia	1962	42.51800	99028000	849.2898
Indonesia	Asia	1967	45.96400	109343000	762.4318
Indonesia	Asia	1972	49.20300	121282000	1111.1079
Indonesia	Asia	1977	52.70200	136725000	1382.7021
Indonesia	Asia	1982	56.15900	153343000	1516.8730
Indonesia	Asia	1987	60.13700	169276000	1748.3570
Indonesia	Asia	1992	62.68100	184816000	2383.1409
Indonesia	Asia	1997	66.04100	199278000	3119.3356
Indonesia	Asia	2002	68.58800	211060000	2873.9129
Indonesia	Asia	2007	70.65000	223547000	3540.6516

country	continent	year	lifeExp	pop	gdpPercap
Iran	Asia	1952	44.86900	17272000	3035.3260
Iran	Asia	1957	47.18100	19792000	3290.2576
Iran	Asia	1962	49.32500	22874000	4187.3298
Iran	Asia	1967	52.46900	26538000	5906.7318
Iran	Asia	1972	55.23400	30614000	9613.8186
Iran	Asia	1977	57.70200	35480679	11888.5951
Iran	Asia	1982	59.62000	43072751	7608.3346
Iran	Asia	1987	63.04000	51889696	6642.8814
Iran	Asia	1992	65.74200	60397973	7235.6532
Iran	Asia	1997	68.04200	63327987	8263.5903
Iran	Asia	2002	69.45100	66907826	9240.7620
Iran	Asia	2007	70.96400	69453570	11605.7145
Iraq	Asia	1952	45.32000	5441766	4129.7661

country	continent	year	lifeExp	pop	gdpPercap
Iraq	Asia	1957	48.43700	6248643	6229.3336
Iraq	Asia	1962	51.45700	7240260	8341.7378
Iraq	Asia	1967	54.45900	8519282	8931.4598
Iraq	Asia	1972	56.95000	10061506	9576.0376
Iraq	Asia	1977	60.41300	11882916	14688.2351
Iraq	Asia	1982	62.03800	14173318	14517.9071
Iraq	Asia	1987	65.04400	16543189	11643.5727
Iraq	Asia	1992	59.46100	17861905	3745.6407
Iraq	Asia	1997	58.81100	20775703	3076.2398
Iraq	Asia	2002	57.04600	24001816	4390.7173
Iraq	Asia	2007	59.54500	27499638	4471.0619
Ireland	Europe	1952	66.91000	2952156	5210.2803
Ireland	Europe	1957	68.90000	2878220	5599.0779

country	continent	year	lifeExp	pop	gdpPercap
Ireland	Europe	1962	70.29000	2830000	6631.5973
Ireland	Europe	1967	71.08000	2900100	7655.5690
Ireland	Europe	1972	71.28000	3024400	9530.7729
Ireland	Europe	1977	72.03000	3271900	11150.9811
Ireland	Europe	1982	73.10000	3480000	12618.3214
Ireland	Europe	1987	74.36000	3539900	13872.8665
Ireland	Europe	1992	75.46700	3557761	17558.8155
Ireland	Europe	1997	76.12200	3667233	24521.9471
Ireland	Europe	2002	77.78300	3879155	34077.0494
Ireland	Europe	2007	78.88500	4109086	40675.9964
Israel	Asia	1952	65.39000	1620914	4086.5221
Israel	Asia	1957	67.84000	1944401	5385.2785
Israel	Asia	1962	69.39000	2310904	7105.6307

country	continent	year	lifeExp	pop	gdpPercap
Israel	Asia	1967	70.75000	2693585	8393.7414
Israel	Asia	1972	71.63000	3095893	12786.9322
Israel	Asia	1977	73.06000	3495918	13306.6192
Israel	Asia	1982	74.45000	3858421	15367.0292
Israel	Asia	1987	75.60000	4203148	17122.4799
Israel	Asia	1992	76.93000	4936550	18051.5225
Israel	Asia	1997	78.26900	5531387	20896.6092
Israel	Asia	2002	79.69600	6029529	21905.5951
Israel	Asia	2007	80.74500	6426679	25523.2771
Italy	Europe	1952	65.94000	47666000	4931.4042
Italy	Europe	1957	67.81000	49182000	6248.6562
Italy	Europe	1962	69.24000	50843200	8243.5823
Italy	Europe	1967	71.06000	52667100	10022.4013

country	continent	year	lifeExp	pop	gdpPercap
Italy	Europe	1972	72.19000	54365564	12269.2738
Italy	Europe	1977	73.48000	56059245	14255.9847
Italy	Europe	1982	74.98000	56535636	16537.4835
Italy	Europe	1987	76.42000	56729703	19207.2348
Italy	Europe	1992	77.44000	56840847	22013.6449
Italy	Europe	1997	78.82000	57479469	24675.0245
Italy	Europe	2002	80.24000	57926999	27968.0982
Italy	Europe	2007	80.54600	58147733	28569.7197
Jamaica	Americas	1952	58.53000	1426095	2898.5309
Jamaica	Americas	1957	62.61000	1535090	4756.5258
Jamaica	Americas	1962	65.61000	1665128	5246.1075
Jamaica	Americas	1967	67.51000	1861096	6124.7035
Jamaica	Americas	1972	69.00000	1997616	7433.8893

country	continent	year	lifeExp	pop	gdpPercap
Jamaica	Americas	1977	70.11000	2156814	6650.1956
Jamaica	Americas	1982	71.21000	2298309	6068.0513
Jamaica	Americas	1987	71.77000	2326606	6351.2375
Jamaica	Americas	1992	71.76600	2378618	7404.9237
Jamaica	Americas	1997	72.26200	2531311	7121.9247
Jamaica	Americas	2002	72.04700	2664659	6994.7749
Jamaica	Americas	2007	72.56700	2780132	7320.8803
Japan	Asia	1952	63.03000	86459025	3216.9563
Japan	Asia	1957	65.50000	91563009	4317.6944
Japan	Asia	1962	68.73000	95831757	6576.6495
Japan	Asia	1967	71.43000	100825279	9847.7886
Japan	Asia	1972	73.42000	107188273	14778.7864
Japan	Asia	1977	75.38000	113872473	16610.3770

country	continent	year	lifeExp	pop	gdpPercap
Japan	Asia	1982	77.11000	118454974	19384.1057
Japan	Asia	1987	78.67000	122091325	22375.9419
Japan	Asia	1992	79.36000	124329269	26824.8951
Japan	Asia	1997	80.69000	125956499	28816.5850
Japan	Asia	2002	82.00000	127065841	28604.5919
Japan	Asia	2007	82.60300	127467972	31656.0681
Jordan	Asia	1952	43.15800	607914	1546.9078
Jordan	Asia	1957	45.66900	746559	1886.0806
Jordan	Asia	1962	48.12600	933559	2348.0092
Jordan	Asia	1967	51.62900	1255058	2741.7963
Jordan	Asia	1972	56.52800	1613551	2110.8563
Jordan	Asia	1977	61.13400	1937652	2852.3516
Jordan	Asia	1982	63.73900	2347031	4161.4160

country	continent	year	lifeExp	pop	gdpPercap
Jordan	Asia	1987	65.86900	2820042	4448.6799
Jordan	Asia	1992	68.01500	3867409	3431.5936
Jordan	Asia	1997	69.77200	4526235	3645.3796
Jordan	Asia	2002	71.26300	5307470	3844.9172
Jordan	Asia	2007	72.53500	6053193	4519.4612
Kenya	Africa	1952	42.27000	6464046	853.5409
Kenya	Africa	1957	44.68600	7454779	944.4383
Kenya	Africa	1962	47.94900	8678557	896.9664
Kenya	Africa	1967	50.65400	10191512	1056.7365
Kenya	Africa	1972	53.55900	12044785	1222.3600
Kenya	Africa	1977	56.15500	14500404	1267.6132
Kenya	Africa	1982	58.76600	17661452	1348.2258
Kenya	Africa	1987	59.33900	21198082	1361.9369

country	continent	year	lifeExp	pop	gdpPercap
Kenya	Africa	1992	59.28500	25020539	1341.9217
Kenya	Africa	1997	54.40700	28263827	1360.4850
Kenya	Africa	2002	50.99200	31386842	1287.5147
Kenya	Africa	2007	54.11000	35610177	1463.2493
Korea, Dem. Rep.	Asia	1952	50.05600	8865488	1088.2778
Korea, Dem. Rep.	Asia	1957	54.08100	9411381	1571.1347
Korea, Dem. Rep.	Asia	1962	56.65600	10917494	1621.6936
Korea, Dem. Rep.	Asia	1967	59.94200	12617009	2143.5406
Korea, Dem. Rep.	Asia	1972	63.98300	14781241	3701.6215
Korea, Dem. Rep.	Asia	1977	67.15900	16325320	4106.3012
Korea, Dem. Rep.	Asia	1982	69.10000	17647518	4106.5253
Korea, Dem. Rep.	Asia	1987	70.64700	19067554	4106.4923
Korea, Dem. Rep.	Asia	1992	69.97800	20711375	3726.0635

country	continent	year	lifeExp	pop	gdpPercap
Korea, Dem. Rep.	Asia	1997	67.72700	21585105	1690.7568
Korea, Dem. Rep.	Asia	2002	66.66200	22215365	1646.7582
Korea, Dem. Rep.	Asia	2007	67.29700	23301725	1593.0655
Korea, Rep.	Asia	1952	47.45300	20947571	1030.5922
Korea, Rep.	Asia	1957	52.68100	22611552	1487.5935
Korea, Rep.	Asia	1962	55.29200	26420307	1536.3444
Korea, Rep.	Asia	1967	57.71600	30131000	2029.2281
Korea, Rep.	Asia	1972	62.61200	33505000	3030.8767
Korea, Rep.	Asia	1977	64.76600	36436000	4657.2210
Korea, Rep.	Asia	1982	67.12300	39326000	5622.9425
Korea, Rep.	Asia	1987	69.81000	41622000	8533.0888
Korea, Rep.	Asia	1992	72.24400	43805450	12104.2787
Korea, Rep.	Asia	1997	74.64700	46173816	15993.5280

country	continent	year	lifeExp	pop	gdpPercap
Korea, Rep.	Asia	2002	77.04500	47969150	19233.9882
Korea, Rep.	Asia	2007	78.62300	49044790	23348.1397
Kuwait	Asia	1952	55.56500	160000	108382.3529
Kuwait	Asia	1957	58.03300	212846	113523.1329
Kuwait	Asia	1962	60.47000	358266	95458.1118
Kuwait	Asia	1967	64.62400	575003	80894.8833
Kuwait	Asia	1972	67.71200	841934	109347.8670
Kuwait	Asia	1977	69.34300	1140357	59265.4771
Kuwait	Asia	1982	71.30900	1497494	31354.0357
Kuwait	Asia	1987	74.17400	1891487	28118.4300
Kuwait	Asia	1992	75.19000	1418095	34932.9196
Kuwait	Asia	1997	76.15600	1765345	40300.6200
Kuwait	Asia	2002	76.90400	2111561	35110.1057

country	continent	year	lifeExp	pop	gdpPercap
Kuwait	Asia	2007	77.58800	2505559	47306.9898
Lebanon	Asia	1952	55.92800	1439529	4834.8041
Lebanon	Asia	1957	59.48900	1647412	6089.7869
Lebanon	Asia	1962	62.09400	1886848	5714.5606
Lebanon	Asia	1967	63.87000	2186894	6006.9830
Lebanon	Asia	1972	65.42100	2680018	7486.3843
Lebanon	Asia	1977	66.09900	3115787	8659.6968
Lebanon	Asia	1982	66.98300	3086876	7640.5195
Lebanon	Asia	1987	67.92600	3089353	5377.0913
Lebanon	Asia	1992	69.29200	3219994	6890.8069
Lebanon	Asia	1997	70.26500	3430388	8754.9639
Lebanon	Asia	2002	71.02800	3677780	9313.9388
Lebanon	Asia	2007	71.99300	3921278	10461.0587

country	continent	year	lifeExp	pop	gdpPercap
Lesotho	Africa	1952	42.13800	748747	298.8462
Lesotho	Africa	1957	45.04700	813338	335.9971
Lesotho	Africa	1962	47.74700	893143	411.8006
Lesotho	Africa	1967	48.49200	996380	498.6390
Lesotho	Africa	1972	49.76700	1116779	496.5816
Lesotho	Africa	1977	52.20800	1251524	745.3695
Lesotho	Africa	1982	55.07800	1411807	797.2631
Lesotho	Africa	1987	57.18000	1599200	773.9932
Lesotho	Africa	1992	59.68500	1803195	977.4863
Lesotho	Africa	1997	55.55800	1982823	1186.1480
Lesotho	Africa	2002	44.59300	2046772	1275.1846
Lesotho	Africa	2007	42.59200	2012649	1569.3314
Liberia	Africa	1952	38.48000	863308	575.5730

country	continent	year	lifeExp	pop	gdpPercap
Liberia	Africa	1957	39.48600	975950	620.9700
Liberia	Africa	1962	40.50200	1112796	634.1952
Liberia	Africa	1967	41.53600	1279406	713.6036
Liberia	Africa	1972	42.61400	1482628	803.0055
Liberia	Africa	1977	43.76400	1703617	640.3224
Liberia	Africa	1982	44.85200	1956875	572.1996
Liberia	Africa	1987	46.02700	2269414	506.1139
Liberia	Africa	1992	40.80200	1912974	636.6229
Liberia	Africa	1997	42.22100	2200725	609.1740
Liberia	Africa	2002	43.75300	2814651	531.4824
Liberia	Africa	2007	45.67800	3193942	414.5073
Libya	Africa	1952	42.72300	1019729	2387.5481
Libya	Africa	1957	45.28900	1201578	3448.2844

country	continent	year	lifeExp	pop	gdpPercap
Libya	Africa	1962	47.80800	1441863	6757.0308
Libya	Africa	1967	50.22700	1759224	18772.7517
Libya	Africa	1972	52.77300	2183877	21011.4972
Libya	Africa	1977	57.44200	2721783	21951.2118
Libya	Africa	1982	62.15500	3344074	17364.2754
Libya	Africa	1987	66.23400	3799845	11770.5898
Libya	Africa	1992	68.75500	4364501	9640.1385
Libya	Africa	1997	71.55500	4759670	9467.4461
Libya	Africa	2002	72.73700	5368585	9534.6775
Libya	Africa	2007	73.95200	6036914	12057.4993
Madagascar	Africa	1952	36.68100	4762912	1443.0117
Madagascar	Africa	1957	38.86500	5181679	1589.2027
Madagascar	Africa	1962	40.84800	5703324	1643.3871

country	continent	year	lifeExp	pop	gdpPercap
Madagascar	Africa	1967	42.88100	6334556	1634.0473
Madagascar	Africa	1972	44.85100	7082430	1748.5630
Madagascar	Africa	1977	46.88100	8007166	1544.2286
Madagascar	Africa	1982	48.96900	9171477	1302.8787
Madagascar	Africa	1987	49.35000	10568642	1155.4419
Madagascar	Africa	1992	52.21400	12210395	1040.6762
Madagascar	Africa	1997	54.97800	14165114	986.2959
Madagascar	Africa	2002	57.28600	16473477	894.6371
Madagascar	Africa	2007	59.44300	19167654	1044.7701
Malawi	Africa	1952	36.25600	2917802	369.1651
Malawi	Africa	1957	37.20700	3221238	416.3698
Malawi	Africa	1962	38.41000	3628608	427.9011
Malawi	Africa	1967	39.48700	4147252	495.5148

country	continent	year	lifeExp	pop	gdpPercap
Malawi	Africa	1972	41.76600	4730997	584.6220
Malawi	Africa	1977	43.76700	5637246	663.2237
Malawi	Africa	1982	45.64200	6502825	632.8039
Malawi	Africa	1987	47.45700	7824747	635.5174
Malawi	Africa	1992	49.42000	10014249	563.2000
Malawi	Africa	1997	47.49500	10419991	692.2758
Malawi	Africa	2002	45.00900	11824495	665.4231
Malawi	Africa	2007	48.30300	13327079	759.3499
Malaysia	Asia	1952	48.46300	6748378	1831.1329
Malaysia	Asia	1957	52.10200	7739235	1810.0670
Malaysia	Asia	1962	55.73700	8906385	2036.8849
Malaysia	Asia	1967	59.37100	10154878	2277.7424
Malaysia	Asia	1972	63.01000	11441462	2849.0948

country	continent	year	lifeExp	pop	gdpPercap
Malaysia	Asia	1977	65.25600	12845381	3827.9216
Malaysia	Asia	1982	68.00000	14441916	4920.3560
Malaysia	Asia	1987	69.50000	16331785	5249.8027
Malaysia	Asia	1992	70.69300	18319502	7277.9128
Malaysia	Asia	1997	71.93800	20476091	10132.9096
Malaysia	Asia	2002	73.04400	22662365	10206.9779
Malaysia	Asia	2007	74.24100	24821286	12451.6558
Mali	Africa	1952	33.68500	3838168	452.3370
Mali	Africa	1957	35.30700	4241884	490.3822
Mali	Africa	1962	36.93600	4690372	496.1743
Mali	Africa	1967	38.48700	5212416	545.0099
Mali	Africa	1972	39.97700	5828158	581.3689
Mali	Africa	1977	41.71400	6491649	686.3953

country	continent	year	lifeExp	pop	gdpPercap
Mali	Africa	1982	43.91600	6998256	618.0141
Mali	Africa	1987	46.36400	7634008	684.1716
Mali	Africa	1992	48.38800	8416215	739.0144
Mali	Africa	1997	49.90300	9384984	790.2580
Mali	Africa	2002	51.81800	10580176	951.4098
Mali	Africa	2007	54.46700	12031795	1042.5816
Mauritania	Africa	1952	40.54300	1022556	743.1159
Mauritania	Africa	1957	42.33800	1076852	846.1203
Mauritania	Africa	1962	44.24800	1146757	1055.8960
Mauritania	Africa	1967	46.28900	1230542	1421.1452
Mauritania	Africa	1972	48.43700	1332786	1586.8518
Mauritania	Africa	1977	50.85200	1456688	1497.4922
Mauritania	Africa	1982	53.59900	1622136	1481.1502

country	continent	year	lifeExp	pop	gdpPercap
Mauritania	Africa	1987	56.14500	1841240	1421.6036
Mauritania	Africa	1992	58.33300	2119465	1361.3698
Mauritania	Africa	1997	60.43000	2444741	1483.1361
Mauritania	Africa	2002	62.24700	2828858	1579.0195
Mauritania	Africa	2007	64.16400	3270065	1803.1515
Mauritius	Africa	1952	50.98600	516556	1967.9557
Mauritius	Africa	1957	58.08900	609816	2034.0380
Mauritius	Africa	1962	60.24600	701016	2529.0675
Mauritius	Africa	1967	61.55700	789309	2475.3876
Mauritius	Africa	1972	62.94400	851334	2575.4842
Mauritius	Africa	1977	64.93000	913025	3710.9830
Mauritius	Africa	1982	66.71100	992040	3688.0377
Mauritius	Africa	1987	68.74000	1042663	4783.5869

country	continent	year	lifeExp	pop	gdpPercap
Mauritius	Africa	1992	69.74500	1096202	6058.2538
Mauritius	Africa	1997	70.73600	1149818	7425.7053
Mauritius	Africa	2002	71.95400	1200206	9021.8159
Mauritius	Africa	2007	72.80100	1250882	10956.9911
Mexico	Americas	1952	50.78900	30144317	3478.1255
Mexico	Americas	1957	55.19000	35015548	4131.5466
Mexico	Americas	1962	58.29900	41121485	4581.6094
Mexico	Americas	1967	60.11000	47995559	5754.7339
Mexico	Americas	1972	62.36100	55984294	6809.4067
Mexico	Americas	1977	65.03200	63759976	7674.9291
Mexico	Americas	1982	67.40500	71640904	9611.1475
Mexico	Americas	1987	69.49800	80122492	8688.1560
Mexico	Americas	1992	71.45500	88111030	9472.3843

country	continent	year	lifeExp	pop	gdpPercap
Mexico	Americas	1997	73.67000	95895146	9767.2975
Mexico	Americas	2002	74.90200	102479927	10742.4405
Mexico	Americas	2007	76.19500	108700891	11977.5750
Mongolia	Asia	1952	42.24400	800663	786.5669
Mongolia	Asia	1957	45.24800	882134	912.6626
Mongolia	Asia	1962	48.25100	1010280	1056.3540
Mongolia	Asia	1967	51.25300	1149500	1226.0411
Mongolia	Asia	1972	53.75400	1320500	1421.7420
Mongolia	Asia	1977	55.49100	1528000	1647.5117
Mongolia	Asia	1982	57.48900	1756032	2000.6031
Mongolia	Asia	1987	60.22200	2015133	2338.0083
Mongolia	Asia	1992	61.27100	2312802	1785.4020
Mongolia	Asia	1997	63.62500	2494803	1902.2521

country	continent	year	lifeExp	pop	gdpPercap
Mongolia	Asia	2002	65.03300	2674234	2140.7393
Mongolia	Asia	2007	66.80300	2874127	3095.7723
Montenegro	Europe	1952	59.16400	413834	2647.5856
Montenegro	Europe	1957	61.44800	442829	3682.2599
Montenegro	Europe	1962	63.72800	474528	4649.5938
Montenegro	Europe	1967	67.17800	501035	5907.8509
Montenegro	Europe	1972	70.63600	527678	7778.4140
Montenegro	Europe	1977	73.06600	560073	9595.9299
Montenegro	Europe	1982	74.10100	562548	11222.5876
Montenegro	Europe	1987	74.86500	569473	11732.5102
Montenegro	Europe	1992	75.43500	621621	7003.3390
Montenegro	Europe	1997	75.44500	692651	6465.6133
Montenegro	Europe	2002	73.98100	720230	6557.1943

country	continent	year	lifeExp	pop	gdpPercap
Montenegro	Europe	2007	74.54300	684736	9253.8961
Morocco	Africa	1952	42.87300	9939217	1688.2036
Morocco	Africa	1957	45.42300	11406350	1642.0023
Morocco	Africa	1962	47.92400	13056604	1566.3535
Morocco	Africa	1967	50.33500	14770296	1711.0448
Morocco	Africa	1972	52.86200	16660670	1930.1950
Morocco	Africa	1977	55.73000	18396941	2370.6200
Morocco	Africa	1982	59.65000	20198730	2702.6204
Morocco	Africa	1987	62.67700	22987397	2755.0470
Morocco	Africa	1992	65.39300	25798239	2948.0473
Morocco	Africa	1997	67.66000	28529501	2982.1019
Morocco	Africa	2002	69.61500	31167783	3258.4956
Morocco	Africa	2007	71.16400	33757175	3820.1752

country	continent	year	lifeExp	pop	gdpPercap
Mozambique	Africa	1952	31.28600	6446316	468.5260
Mozambique	Africa	1957	33.77900	7038035	495.5868
Mozambique	Africa	1962	36.16100	7788944	556.6864
Mozambique	Africa	1967	38.11300	8680909	566.6692
Mozambique	Africa	1972	40.32800	9809596	724.9178
Mozambique	Africa	1977	42.49500	11127868	502.3197
Mozambique	Africa	1982	42.79500	12587223	462.2114
Mozambique	Africa	1987	42.86100	12891952	389.8762
Mozambique	Africa	1992	44.28400	13160731	410.8968
Mozambique	Africa	1997	46.34400	16603334	472.3461
Mozambique	Africa	2002	44.02600	18473780	633.6179
Mozambique	Africa	2007	42.08200	19951656	823.6856
Myanmar	Asia	1952	36.31900	20092996	331.0000

country	continent	year	lifeExp	pop	gdpPercap
Myanmar	Asia	1957	41.90500	21731844	350.0000
Myanmar	Asia	1962	45.10800	23634436	388.0000
Myanmar	Asia	1967	49.37900	25870271	349.0000
Myanmar	Asia	1972	53.07000	28466390	357.0000
Myanmar	Asia	1977	56.05900	31528087	371.0000
Myanmar	Asia	1982	58.05600	34680442	424.0000
Myanmar	Asia	1987	58.33900	38028578	385.0000
Myanmar	Asia	1992	59.32000	40546538	347.0000
Myanmar	Asia	1997	60.32800	43247867	415.0000
Myanmar	Asia	2002	59.90800	45598081	611.0000
Myanmar	Asia	2007	62.06900	47761980	944.0000
Namibia	Africa	1952	41.72500	485831	2423.7804
Namibia	Africa	1957	45.22600	548080	2621.4481

country	continent	year	lifeExp	pop	gdpPercap
Namibia	Africa	1962	48.38600	621392	3173.2156
Namibia	Africa	1967	51.15900	706640	3793.6948
Namibia	Africa	1972	53.86700	821782	3746.0809
Namibia	Africa	1977	56.43700	977026	3876.4860
Namibia	Africa	1982	58.96800	1099010	4191.1005
Namibia	Africa	1987	60.83500	1278184	3693.7313
Namibia	Africa	1992	61.99900	1554253	3804.5380
Namibia	Africa	1997	58.90900	1774766	3899.5243
Namibia	Africa	2002	51.47900	1972153	4072.3248
Namibia	Africa	2007	52.90600	2055080	4811.0604
Nepal	Asia	1952	36.15700	9182536	545.8657
Nepal	Asia	1957	37.68600	9682338	597.9364
Nepal	Asia	1962	39.39300	10332057	652.3969

country	continent	year	lifeExp	pop	gdpPercap
Nepal	Asia	1967	41.47200	11261690	676.4422
Nepal	Asia	1972	43.97100	12412593	674.7881
Nepal	Asia	1977	46.74800	13933198	694.1124
Nepal	Asia	1982	49.59400	15796314	718.3731
Nepal	Asia	1987	52.53700	17917180	775.6325
Nepal	Asia	1992	55.72700	20326209	897.7404
Nepal	Asia	1997	59.42600	23001113	1010.8921
Nepal	Asia	2002	61.34000	25873917	1057.2063
Nepal	Asia	2007	63.78500	28901790	1091.3598
Netherlands	Europe	1952	72.13000	10381988	8941.5719
Netherlands	Europe	1957	72.99000	11026383	11276.1934
Netherlands	Europe	1962	73.23000	11805689	12790.8496
Netherlands	Europe	1967	73.82000	12596822	15363.2514

country	continent	year	lifeExp	pop	gdpPercap
Netherlands	Europe	1972	73.75000	13329874	18794.7457
Netherlands	Europe	1977	75.24000	13852989	21209.0592
Netherlands	Europe	1982	76.05000	14310401	21399.4605
Netherlands	Europe	1987	76.83000	14665278	23651.3236
Netherlands	Europe	1992	77.42000	15174244	26790.9496
Netherlands	Europe	1997	78.03000	15604464	30246.1306
Netherlands	Europe	2002	78.53000	16122830	33724.7578
Netherlands	Europe	2007	79.76200	16570613	36797.9333
New Zealand	Oceania	1952	69.39000	1994794	10556.5757
New Zealand	Oceania	1957	70.26000	2229407	12247.3953
New Zealand	Oceania	1962	71.24000	2488550	13175.6780
New Zealand	Oceania	1967	71.52000	2728150	14463.9189
New Zealand	Oceania	1972	71.89000	2929100	16046.0373

country	continent	year	lifeExp	pop	gdpPercap
New Zealand	Oceania	1977	72.22000	3164900	16233.7177
New Zealand	Oceania	1982	73.84000	3210650	17632.4104
New Zealand	Oceania	1987	74.32000	3317166	19007.1913
New Zealand	Oceania	1992	76.33000	3437674	18363.3249
New Zealand	Oceania	1997	77.55000	3676187	21050.4138
New Zealand	Oceania	2002	79.11000	3908037	23189.8014
New Zealand	Oceania	2007	80.20400	4115771	25185.0091
Nicaragua	Americas	1952	42.31400	1165790	3112.3639
Nicaragua	Americas	1957	45.43200	1358828	3457.4159
Nicaragua	Americas	1962	48.63200	1590597	3634.3644
Nicaragua	Americas	1967	51.88400	1865490	4643.3935
Nicaragua	Americas	1972	55.15100	2182908	4688.5933
Nicaragua	Americas	1977	57.47000	2554598	5486.3711

country	continent	year	lifeExp	pop	gdpPercap
Nicaragua	Americas	1982	59.29800	2979423	3470.3382
Nicaragua	Americas	1987	62.00800	3344353	2955.9844
Nicaragua	Americas	1992	65.84300	4017939	2170.1517
Nicaragua	Americas	1997	68.42600	4609572	2253.0230
Nicaragua	Americas	2002	70.83600	5146848	2474.5488
Nicaragua	Americas	2007	72.89900	5675356	2749.3210
Niger	Africa	1952	37.44400	3379468	761.8794
Niger	Africa	1957	38.59800	3692184	835.5234
Niger	Africa	1962	39.48700	4076008	997.7661
Niger	Africa	1967	40.11800	4534062	1054.3849
Niger	Africa	1972	40.54600	5060262	954.2092
Niger	Africa	1977	41.29100	5682086	808.8971
Niger	Africa	1982	42.59800	6437188	909.7221

country	continent	year	lifeExp	pop	gdpPercap
Niger	Africa	1987	44.55500	7332638	668.3000
Niger	Africa	1992	47.39100	8392818	581.1827
Niger	Africa	1997	51.31300	9666252	580.3052
Niger	Africa	2002	54.49600	11140655	601.0745
Niger	Africa	2007	56.86700	12894865	619.6769
Nigeria	Africa	1952	36.32400	33119096	1077.2819
Nigeria	Africa	1957	37.80200	37173340	1100.5926
Nigeria	Africa	1962	39.36000	41871351	1150.9275
Nigeria	Africa	1967	41.04000	47287752	1014.5141
Nigeria	Africa	1972	42.82100	53740085	1698.3888
Nigeria	Africa	1977	44.51400	62209173	1981.9518
Nigeria	Africa	1982	45.82600	73039376	1576.9738
Nigeria	Africa	1987	46.88600	81551520	1385.0296

country	continent	year	lifeExp	pop	gdpPercap
Nigeria	Africa	1992	47.47200	93364244	1619.8482
Nigeria	Africa	1997	47.46400	106207839	1624.9413
Nigeria	Africa	2002	46.60800	119901274	1615.2864
Nigeria	Africa	2007	46.85900	135031164	2013.9773
Norway	Europe	1952	72.67000	3327728	10095.4217
Norway	Europe	1957	73.44000	3491938	11653.9730
Norway	Europe	1962	73.47000	3638919	13450.4015
Norway	Europe	1967	74.08000	3786019	16361.8765
Norway	Europe	1972	74.34000	3933004	18965.0555
Norway	Europe	1977	75.37000	4043205	23311.3494
Norway	Europe	1982	75.97000	4114787	26298.6353
Norway	Europe	1987	75.89000	4186147	31540.9748
Norway	Europe	1992	77.32000	4286357	33965.6611

country	continent	year	lifeExp	pop	gdpPercap
Norway	Europe	1997	78.32000	4405672	41283.1643
Norway	Europe	2002	79.05000	4535591	44683.9753
Norway	Europe	2007	80.19600	4627926	49357.1902
Oman	Asia	1952	37.57800	507833	1828.2303
Oman	Asia	1957	40.08000	561977	2242.7466
Oman	Asia	1962	43.16500	628164	2924.6381
Oman	Asia	1967	46.98800	714775	4720.9427
Oman	Asia	1972	52.14300	829050	10618.0385
Oman	Asia	1977	57.36700	1004533	11848.3439
Oman	Asia	1982	62.72800	1301048	12954.7910
Oman	Asia	1987	67.73400	1593882	18115.2231
Oman	Asia	1992	71.19700	1915208	18616.7069
Oman	Asia	1997	72.49900	2283635	19702.0558

country	continent	year	lifeExp	pop	gdpPercap
Oman	Asia	2002	74.19300	2713462	19774.8369
Oman	Asia	2007	75.64000	3204897	22316.1929
Pakistan	Asia	1952	43.43600	41346560	684.5971
Pakistan	Asia	1957	45.55700	46679944	747.0835
Pakistan	Asia	1962	47.67000	53100671	803.3427
Pakistan	Asia	1967	49.80000	60641899	942.4083
Pakistan	Asia	1972	51.92900	69325921	1049.9390
Pakistan	Asia	1977	54.04300	78152686	1175.9212
Pakistan	Asia	1982	56.15800	91462088	1443.4298
Pakistan	Asia	1987	58.24500	105186881	1704.6866
Pakistan	Asia	1992	60.83800	120065004	1971.8295
Pakistan	Asia	1997	61.81800	135564834	2049.3505
Pakistan	Asia	2002	63.61000	153403524	2092.7124

country	continent	year	lifeExp	pop	gdpPercap
Pakistan	Asia	2007	65.48300	169270617	2605.9476
Panama	Americas	1952	55.19100	940080	2480.3803
Panama	Americas	1957	59.20100	1063506	2961.8009
Panama	Americas	1962	61.81700	1215725	3536.5403
Panama	Americas	1967	64.07100	1405486	4421.0091
Panama	Americas	1972	66.21600	1616384	5364.2497
Panama	Americas	1977	68.68100	1839782	5351.9121
Panama	Americas	1982	70.47200	2036305	7009.6016
Panama	Americas	1987	71.52300	2253639	7034.7792
Panama	Americas	1992	72.46200	2484997	6618.7431
Panama	Americas	1997	73.73800	2734531	7113.6923
Panama	Americas	2002	74.71200	2990875	7356.0319
Panama	Americas	2007	75.53700	3242173	9809.1856

country	continent	year	lifeExp	pop	gdpPercap
Paraguay	Americas	1952	62.64900	1555876	1952.3087
Paraguay	Americas	1957	63.19600	1770902	2046.1547
Paraguay	Americas	1962	64.36100	2009813	2148.0271
Paraguay	Americas	1967	64.95100	2287985	2299.3763
Paraguay	Americas	1972	65.81500	2614104	2523.3380
Paraguay	Americas	1977	66.35300	2984494	3248.3733
Paraguay	Americas	1982	66.87400	3366439	4258.5036
Paraguay	Americas	1987	67.37800	3886512	3998.8757
Paraguay	Americas	1992	68.22500	4483945	4196.4111
Paraguay	Americas	1997	69.40000	5154123	4247.4003
Paraguay	Americas	2002	70.75500	5884491	3783.6742
Paraguay	Americas	2007	71.75200	6667147	4172.8385
Peru	Americas	1952	43.90200	8025700	3758.5234

country	continent	year	lifeExp	pop	gdpPercap
Peru	Americas	1957	46.26300	9146100	4245.2567
Peru	Americas	1962	49.09600	10516500	4957.0380
Peru	Americas	1967	51.44500	12132200	5788.0933
Peru	Americas	1972	55.44800	13954700	5937.8273
Peru	Americas	1977	58.44700	15990099	6281.2909
Peru	Americas	1982	61.40600	18125129	6434.5018
Peru	Americas	1987	64.13400	20195924	6360.9434
Peru	Americas	1992	66.45800	22430449	4446.3809
Peru	Americas	1997	68.38600	24748122	5838.3477
Peru	Americas	2002	69.90600	26769436	5909.0201
Peru	Americas	2007	71.42100	28674757	7408.9056
Philippines	Asia	1952	47.75200	22438691	1272.8810
Philippines	Asia	1957	51.33400	26072194	1547.9448

country	continent	year	lifeExp	pop	gdpPercap
Philippines	Asia	1962	54.75700	30325264	1649.5522
Philippines	Asia	1967	56.39300	35356600	1814.1274
Philippines	Asia	1972	58.06500	40850141	1989.3741
Philippines	Asia	1977	60.06000	46850962	2373.2043
Philippines	Asia	1982	62.08200	53456774	2603.2738
Philippines	Asia	1987	64.15100	60017788	2189.6350
Philippines	Asia	1992	66.45800	67185766	2279.3240
Philippines	Asia	1997	68.56400	75012988	2536.5349
Philippines	Asia	2002	70.30300	82995088	2650.9211
Philippines	Asia	2007	71.68800	91077287	3190.4810
Poland	Europe	1952	61.31000	25730551	4029.3297
Poland	Europe	1957	65.77000	28235346	4734.2530
Poland	Europe	1962	67.64000	30329617	5338.7521

country	continent	year	lifeExp	pop	gdpPercap
Poland	Europe	1967	69.61000	31785378	6557.1528
Poland	Europe	1972	70.85000	33039545	8006.5070
Poland	Europe	1977	70.67000	34621254	9508.1415
Poland	Europe	1982	71.32000	36227381	8451.5310
Poland	Europe	1987	70.98000	37740710	9082.3512
Poland	Europe	1992	70.99000	38370697	7738.8812
Poland	Europe	1997	72.75000	38654957	10159.5837
Poland	Europe	2002	74.67000	38625976	12002.2391
Poland	Europe	2007	75.56300	38518241	15389.9247
Portugal	Europe	1952	59.82000	8526050	3068.3199
Portugal	Europe	1957	61.51000	8817650	3774.5717
Portugal	Europe	1962	64.39000	9019800	4727.9549
Portugal	Europe	1967	66.60000	9103000	6361.5180

country	continent	year	lifeExp	pop	gdpPercap
Portugal	Europe	1972	69.26000	8970450	9022.2474
Portugal	Europe	1977	70.41000	9662600	10172.4857
Portugal	Europe	1982	72.77000	9859650	11753.8429
Portugal	Europe	1987	74.06000	9915289	13039.3088
Portugal	Europe	1992	74.86000	9927680	16207.2666
Portugal	Europe	1997	75.97000	10156415	17641.0316
Portugal	Europe	2002	77.29000	10433867	19970.9079
Portugal	Europe	2007	78.09800	10642836	20509.6478
Puerto Rico	Americas	1952	64.28000	2227000	3081.9598
Puerto Rico	Americas	1957	68.54000	2260000	3907.1562
Puerto Rico	Americas	1962	69.62000	2448046	5108.3446
Puerto Rico	Americas	1967	71.10000	2648961	6929.2777
Puerto Rico	Americas	1972	72.16000	2847132	9123.0417

country	continent	year	lifeExp	pop	gdpPercap
Puerto Rico	Americas	1977	73.44000	3080828	9770.5249
Puerto Rico	Americas	1982	73.75000	3279001	10330.9891
Puerto Rico	Americas	1987	74.63000	3444468	12281.3419
Puerto Rico	Americas	1992	73.91100	3585176	14641.5871
Puerto Rico	Americas	1997	74.91700	3759430	16999.4333
Puerto Rico	Americas	2002	77.77800	3859606	18855.6062
Puerto Rico	Americas	2007	78.74600	3942491	19328.7090
Reunion	Africa	1952	52.72400	257700	2718.8853
Reunion	Africa	1957	55.09000	308700	2769.4518
Reunion	Africa	1962	57.66600	358900	3173.7233
Reunion	Africa	1967	60.54200	414024	4021.1757
Reunion	Africa	1972	64.27400	461633	5047.6586
Reunion	Africa	1977	67.06400	492095	4319.8041

country	continent	year	lifeExp	pop	gdpPercap
Reunion	Africa	1982	69.88500	517810	5267.2194
Reunion	Africa	1987	71.91300	562035	5303.3775
Reunion	Africa	1992	73.61500	622191	6101.2558
Reunion	Africa	1997	74.77200	684810	6071.9414
Reunion	Africa	2002	75.74400	743981	6316.1652
Reunion	Africa	2007	76.44200	798094	7670.1226
Romania	Europe	1952	61.05000	16630000	3144.6132
Romania	Europe	1957	64.10000	17829327	3943.3702
Romania	Europe	1962	66.80000	18680721	4734.9976
Romania	Europe	1967	66.80000	19284814	6470.8665
Romania	Europe	1972	69.21000	20662648	8011.4144
Romania	Europe	1977	69.46000	21658597	9356.3972
Romania	Europe	1982	69.66000	22356726	9605.3141

country	continent	year	lifeExp	pop	gdpPercap
Romania	Europe	1987	69.53000	22686371	9696.2733
Romania	Europe	1992	69.36000	22797027	6598.4099
Romania	Europe	1997	69.72000	22562458	7346.5476
Romania	Europe	2002	71.32200	22404337	7885.3601
Romania	Europe	2007	72.47600	22276056	10808.4756
Rwanda	Africa	1952	40.00000	2534927	493.3239
Rwanda	Africa	1957	41.50000	2822082	540.2894
Rwanda	Africa	1962	43.00000	3051242	597.4731
Rwanda	Africa	1967	44.10000	3451079	510.9637
Rwanda	Africa	1972	44.60000	3992121	590.5807
Rwanda	Africa	1977	45.00000	4657072	670.0806
Rwanda	Africa	1982	46.21800	5507565	881.5706
Rwanda	Africa	1987	44.02000	6349365	847.9912

country	continent	year	lifeExp	pop	gdpPercap
Rwanda	Africa	1992	23.59900	7290203	737.0686
Rwanda	Africa	1997	36.08700	7212583	589.9445
Rwanda	Africa	2002	43.41300	7852401	785.6538
Rwanda	Africa	2007	46.24200	8860588	863.0885
Sao Tome and Principe	Africa	1952	46.47100	60011	879.5836
Sao Tome and Principe	Africa	1957	48.94500	61325	860.7369
Sao Tome and Principe	Africa	1962	51.89300	65345	1071.5511
Sao Tome and Principe	Africa	1967	54.42500	70787	1384.8406
Sao Tome and Principe	Africa	1972	56.48000	76595	1532.9853

country	continent	year	lifeExp	pop	gdpPercap
Sao Tome and Principe	Africa	1977	58.55000	86796	1737.5617
Sao Tome and Principe	Africa	1982	60.35100	98593	1890.2181
Sao Tome and Principe	Africa	1987	61.72800	110812	1516.5255
Sao Tome and Principe	Africa	1992	62.74200	125911	1428.7778
Sao Tome and Principe	Africa	1997	63.30600	145608	1339.0760
Sao Tome and Principe	Africa	2002	64.33700	170372	1353.0924
Sao Tome and Principe	Africa	2007	65.52800	199579	1598.4351
Saudi Arabia	Asia	1952	39.87500	4005677	6459.5548

country	continent	year	lifeExp	pop	gdpPercap
Saudi Arabia	Asia	1957	42.86800	4419650	8157.5912
Saudi Arabia	Asia	1962	45.91400	4943029	11626.4197
Saudi Arabia	Asia	1967	49.90100	5618198	16903.0489
Saudi Arabia	Asia	1972	53.88600	6472756	24837.4287
Saudi Arabia	Asia	1977	58.69000	8128505	34167.7626
Saudi Arabia	Asia	1982	63.01200	11254672	33693.1753
Saudi Arabia	Asia	1987	66.29500	14619745	21198.2614
Saudi Arabia	Asia	1992	68.76800	16945857	24841.6178
Saudi Arabia	Asia	1997	70.53300	21229759	20586.6902
Saudi Arabia	Asia	2002	71.62600	24501530	19014.5412
Saudi Arabia	Asia	2007	72.77700	27601038	21654.8319
Senegal	Africa	1952	37.27800	2755589	1450.3570
Senegal	Africa	1957	39.32900	3054547	1567.6530

country	continent	year	lifeExp	pop	gdpPercap
Senegal	Africa	1962	41.45400	3430243	1654.9887
Senegal	Africa	1967	43.56300	3965841	1612.4046
Senegal	Africa	1972	45.81500	4588696	1597.7121
Senegal	Africa	1977	48.87900	5260855	1561.7691
Senegal	Africa	1982	52.37900	6147783	1518.4800
Senegal	Africa	1987	55.76900	7171347	1441.7207
Senegal	Africa	1992	58.19600	8307920	1367.8994
Senegal	Africa	1997	60.18700	9535314	1392.3683
Senegal	Africa	2002	61.60000	10870037	1519.6353
Senegal	Africa	2007	63.06200	12267493	1712.4721
Serbia	Europe	1952	57.99600	6860147	3581.4594
Serbia	Europe	1957	61.68500	7271135	4981.0909
Serbia	Europe	1962	64.53100	7616060	6289.6292

country	continent	year	lifeExp	pop	gdpPercap
Serbia	Europe	1967	66.91400	7971222	7991.7071
Serbia	Europe	1972	68.70000	8313288	10522.0675
Serbia	Europe	1977	70.30000	8686367	12980.6696
Serbia	Europe	1982	70.16200	9032824	15181.0927
Serbia	Europe	1987	71.21800	9230783	15870.8785
Serbia	Europe	1992	71.65900	9826397	9325.0682
Serbia	Europe	1997	72.23200	10336594	7914.3203
Serbia	Europe	2002	73.21300	10111559	7236.0753
Serbia	Europe	2007	74.00200	10150265	9786.5347
Sierra Leone	Africa	1952	30.33100	2143249	879.7877
Sierra Leone	Africa	1957	31.57000	2295678	1004.4844
Sierra Leone	Africa	1962	32.76700	2467895	1116.6399
Sierra Leone	Africa	1967	34.11300	2662190	1206.0435

country	continent	year	lifeExp	pop	gdpPercap
Sierra Leone	Africa	1972	35.40000	2879013	1353.7598
Sierra Leone	Africa	1977	36.78800	3140897	1348.2852
Sierra Leone	Africa	1982	38.44500	3464522	1465.0108
Sierra Leone	Africa	1987	40.00600	3868905	1294.4478
Sierra Leone	Africa	1992	38.33300	4260884	1068.6963
Sierra Leone	Africa	1997	39.89700	4578212	574.6482
Sierra Leone	Africa	2002	41.01200	5359092	699.4897
Sierra Leone	Africa	2007	42.56800	6144562	862.5408
Singapore	Asia	1952	60.39600	1127000	2315.1382
Singapore	Asia	1957	63.17900	1445929	2843.1044
Singapore	Asia	1962	65.79800	1750200	3674.7356
Singapore	Asia	1967	67.94600	1977600	4977.4185
Singapore	Asia	1972	69.52100	2152400	8597.7562

country	continent	year	lifeExp	pop	gdpPercap
Singapore	Asia	1977	70.79500	2325300	11210.0895
Singapore	Asia	1982	71.76000	2651869	15169.1611
Singapore	Asia	1987	73.56000	2794552	18861.5308
Singapore	Asia	1992	75.78800	3235865	24769.8912
Singapore	Asia	1997	77.15800	3802309	33519.4766
Singapore	Asia	2002	78.77000	4197776	36023.1054
Singapore	Asia	2007	79.97200	4553009	47143.1796
Slovak Republic	Europe	1952	64.36000	3558137	5074.6591
Slovak Republic	Europe	1957	67.45000	3844277	6093.2630
Slovak Republic	Europe	1962	70.33000	4237384	7481.1076
Slovak Republic	Europe	1967	70.98000	4442238	8412.9024
Slovak Republic	Europe	1972	70.35000	4593433	9674.1676
Slovak Republic	Europe	1977	70.45000	4827803	10922.6640

country	continent	year	lifeExp	pop	gdpPercap
Slovak Republic	Europe	1982	70.80000	5048043	11348.5459
Slovak Republic	Europe	1987	71.08000	5199318	12037.2676
Slovak Republic	Europe	1992	71.38000	5302888	9498.4677
Slovak Republic	Europe	1997	72.71000	5383010	12126.2306
Slovak Republic	Europe	2002	73.80000	5410052	13638.7784
Slovak Republic	Europe	2007	74.66300	5447502	18678.3144
Slovenia	Europe	1952	65.57000	1489518	4215.0417
Slovenia	Europe	1957	67.85000	1533070	5862.2766
Slovenia	Europe	1962	69.15000	1582962	7402.3034
Slovenia	Europe	1967	69.18000	1646912	9405.4894
Slovenia	Europe	1972	69.82000	1694510	12383.4862
Slovenia	Europe	1977	70.97000	1746919	15277.0302
Slovenia	Europe	1982	71.06300	1861252	17866.7218

country	continent	year	lifeExp	pop	gdpPercap
Slovenia	Europe	1987	72.25000	1945870	18678.5349
Slovenia	Europe	1992	73.64000	1999210	14214.7168
Slovenia	Europe	1997	75.13000	2011612	17161.1073
Slovenia	Europe	2002	76.66000	2011497	20660.0194
Slovenia	Europe	2007	77.92600	2009245	25768.2576
Somalia	Africa	1952	32.97800	2526994	1135.7498
Somalia	Africa	1957	34.97700	2780415	1258.1474
Somalia	Africa	1962	36.98100	3080153	1369.4883
Somalia	Africa	1967	38.97700	3428839	1284.7332
Somalia	Africa	1972	40.97300	3840161	1254.5761
Somalia	Africa	1977	41.97400	4353666	1450.9925
Somalia	Africa	1982	42.95500	5828892	1176.8070
Somalia	Africa	1987	44.50100	6921858	1093.2450

country	continent	year	lifeExp	pop	gdpPercap
Somalia	Africa	1992	39.65800	6099799	926.9603
Somalia	Africa	1997	43.79500	6633514	930.5964
Somalia	Africa	2002	45.93600	7753310	882.0818
Somalia	Africa	2007	48.15900	9118773	926.1411
South Africa	Africa	1952	45.00900	14264935	4725.2955
South Africa	Africa	1957	47.98500	16151549	5487.1042
South Africa	Africa	1962	49.95100	18356657	5768.7297
South Africa	Africa	1967	51.92700	20997321	7114.4780
South Africa	Africa	1972	53.69600	23935810	7765.9626
South Africa	Africa	1977	55.52700	27129932	8028.6514
South Africa	Africa	1982	58.16100	31140029	8568.2662
South Africa	Africa	1987	60.83400	35933379	7825.8234
South Africa	Africa	1992	61.88800	39964159	7225.0693

country	continent	year	lifeExp	pop	gdpPercap
South Africa	Africa	1997	60.23600	42835005	7479.1882
South Africa	Africa	2002	53.36500	44433622	7710.9464
South Africa	Africa	2007	49.33900	43997828	9269.6578
Spain	Europe	1952	64.94000	28549870	3834.0347
Spain	Europe	1957	66.66000	29841614	4564.8024
Spain	Europe	1962	69.69000	31158061	5693.8439
Spain	Europe	1967	71.44000	32850275	7993.5123
Spain	Europe	1972	73.06000	34513161	10638.7513
Spain	Europe	1977	74.39000	36439000	13236.9212
Spain	Europe	1982	76.30000	37983310	13926.1700
Spain	Europe	1987	76.90000	38880702	15764.9831
Spain	Europe	1992	77.57000	39549438	18603.0645
Spain	Europe	1997	78.77000	39855442	20445.2990

country	continent	year	lifeExp	pop	gdpPercap
Spain	Europe	2002	79.78000	40152517	24835.4717
Spain	Europe	2007	80.94100	40448191	28821.0637
Sri Lanka	Asia	1952	57.59300	7982342	1083.5320
Sri Lanka	Asia	1957	61.45600	9128546	1072.5466
Sri Lanka	Asia	1962	62.19200	10421936	1074.4720
Sri Lanka	Asia	1967	64.26600	11737396	1135.5143
Sri Lanka	Asia	1972	65.04200	13016733	1213.3955
Sri Lanka	Asia	1977	65.94900	14116836	1348.7757
Sri Lanka	Asia	1982	68.75700	15410151	1648.0798
Sri Lanka	Asia	1987	69.01100	16495304	1876.7668
Sri Lanka	Asia	1992	70.37900	17587060	2153.7392
Sri Lanka	Asia	1997	70.45700	18698655	2664.4773
Sri Lanka	Asia	2002	70.81500	19576783	3015.3788

country	continent	year	lifeExp	pop	gdpPercap
Sri Lanka	Asia	2007	72.39600	20378239	3970.0954
Sudan	Africa	1952	38.63500	8504667	1615.9911
Sudan	Africa	1957	39.62400	9753392	1770.3371
Sudan	Africa	1962	40.87000	11183227	1959.5938
Sudan	Africa	1967	42.85800	12716129	1687.9976
Sudan	Africa	1972	45.08300	14597019	1659.6528
Sudan	Africa	1977	47.80000	17104986	2202.9884
Sudan	Africa	1982	50.33800	20367053	1895.5441
Sudan	Africa	1987	51.74400	24725960	1507.8192
Sudan	Africa	1992	53.55600	28227588	1492.1970
Sudan	Africa	1997	55.37300	32160729	1632.2108
Sudan	Africa	2002	56.36900	37090298	1993.3983
Sudan	Africa	2007	58.55600	42292929	2602.3950

country	continent	year	lifeExp	pop	gdpPercap
Swaziland	Africa	1952	41.40700	290243	1148.3766
Swaziland	Africa	1957	43.42400	326741	1244.7084
Swaziland	Africa	1962	44.99200	370006	1856.1821
Swaziland	Africa	1967	46.63300	420690	2613.1017
Swaziland	Africa	1972	49.55200	480105	3364.8366
Swaziland	Africa	1977	52.53700	551425	3781.4106
Swaziland	Africa	1982	55.56100	649901	3895.3840
Swaziland	Africa	1987	57.67800	779348	3984.8398
Swaziland	Africa	1992	58.47400	962344	3553.0224
Swaziland	Africa	1997	54.28900	1054486	3876.7685
Swaziland	Africa	2002	43.86900	1130269	4128.1169
Swaziland	Africa	2007	39.61300	1133066	4513.4806
Sweden	Europe	1952	71.86000	7124673	8527.8447

country	continent	year	lifeExp	pop	gdpPercap
Sweden	Europe	1957	72.49000	7363802	9911.8782
Sweden	Europe	1962	73.37000	7561588	12329.4419
Sweden	Europe	1967	74.16000	7867931	15258.2970
Sweden	Europe	1972	74.72000	8122293	17832.0246
Sweden	Europe	1977	75.44000	8251648	18855.7252
Sweden	Europe	1982	76.42000	8325260	20667.3812
Sweden	Europe	1987	77.19000	8421403	23586.9293
Sweden	Europe	1992	78.16000	8718867	23880.0168
Sweden	Europe	1997	79.39000	8897619	25266.5950
Sweden	Europe	2002	80.04000	8954175	29341.6309
Sweden	Europe	2007	80.88400	9031088	33859.7484
Switzerland	Europe	1952	69.62000	4815000	14724.2227

Using emojis

Emoji cheat sheet

June 2020 ~4 months into lockdown



- June 4: 🐧 In excitement, Allison Horst tweets about the penguins data
 - 📦 Alison asks “Do you wanna build a package?”
 - ? Allison deletes tweet to sort out license
- 1 day later: ✉️ Allison emails Kristen about use & license
- 3 days later (June 8): 🚀 palmerpenguins power team assembles for the first time!
- Same day (June 8): 🏆 Allison Horst tweets (again) — with clear license info
- 45 days later (July 23): 📁 available on **CRAN**

Equations

Model

$$y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \varepsilon$$

y is the response (outcome) variable you want to explain or predict.

x_1 and x_2 are predictor (explanatory) variables.

β_0 is the intercept term (baseline level of y when predictors are zero).

β_1 and β_2 are coefficients that quantify how y changes with x_1 and x_2 , holding the other predictor fixed.

ε is the error term capturing noise and unobserved factors.

$$\min_{\mathbf{x} \in \mathbb{R}^n} \mathbb{E}_{\boldsymbol{\xi}}[f(\mathbf{x}, \boldsymbol{\xi}) + \lambda \|\mathbf{x}\|_1]$$

$$\text{s.t. } g_i(\mathbf{x}) \leq 0, \quad i = 1, \dots, m,$$

$$\mathbb{P}(h_j(\mathbf{x}, \boldsymbol{\xi}) \leq 0) \geq 1 - \alpha, \quad j = 1, \dots, k$$

- \mathbf{x} : Decision variables to optimize.
- $\boldsymbol{\xi}$: Random variables representing uncertainty.
- $f(\mathbf{x}, \boldsymbol{\xi})$: Objective function to minimize.
- $\lambda \|\mathbf{x}\|_1$: Regularization
- $g_i(\mathbf{x})$: Deterministic constraints.
- $h_j(\mathbf{x}, \boldsymbol{\xi})$: Stochastic constraints.
- α : Acceptable risk level for constraint violations.

Quantile regression

$$\hat{q}_\tau(x) = \arg \min_{q \in \mathbb{R}} \sum_{t=1}^T \rho_\tau(y_t - q(x_t)),$$

$$\rho_\tau(u) = u(\tau - \mathbf{1}\{u < 0\})$$

- y_t is the observed target at time t , and x_t is the feature vector
- $\tau \in (0, 1)$ is the quantile level;
- $\hat{q}_\tau(x)$ is the forecasted τ -quantile of $Y \mid X = x$, i.e., a probabilistic forecast rather than a single point estimate.
- $\rho_\tau(u)$ is the pinball (check) loss.
- $\mathbf{1}\{u < 0\}$ is an indicator equal to 1 when the residual is negative, shaping the asymmetry of the loss.
- T is the number of training observations used to fit the forecasting model.

Speaketr notes

Speaker notes

You can include your notes in the slide without showing them in the presentation!
This is sometimes helpful as a beginner to remind yourself what key messages you want to say in the slide

Add a countdown timer

Your Turn!

In small groups, discuss what is good about this chart.

What is bad about it?



Content in different sizes

45%

Percentage of adults who have below primary school level numeric skills.

45%

Percentage of adults who have below primary school level numeric skills.

45%

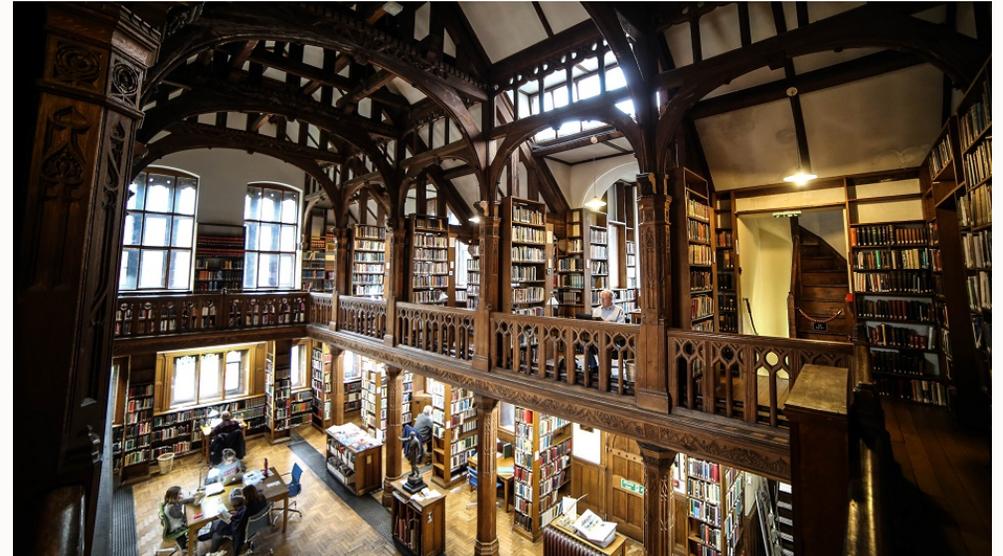
Percentage of adults who have below primary school level numeric skills.

3,000,000

Number of people in the UK with some form of colour vision deficiency.

Put content in middle and center

Birth of two ideas: Democratising Forecasting and Forecasting for Social Good



Include website, URL

Full screen

Include URL with preview link



preview-link

preview

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Background video



Any questions or comments?



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Systems Thinking

Celebrate

Star

Snow

Snow

Callout

Callouts

Note

This is an example of a callout with a title.

Important

This is an example of a callout with a title.

Warning

This is an example of a callout with a title.

Tip with Title

This is an example of a callout with a title.

Tip with Title

This is an example of a callout with a title.

Expand To Learn About Collapse

This is an example of a 'folded' caution callout that can be expanded by the user. You can use `collapse="true"` to collapse it by default or `collapse="false"` to make a collapsible callout that is expanded by default.

Algorithms

Forecasting Pipeline

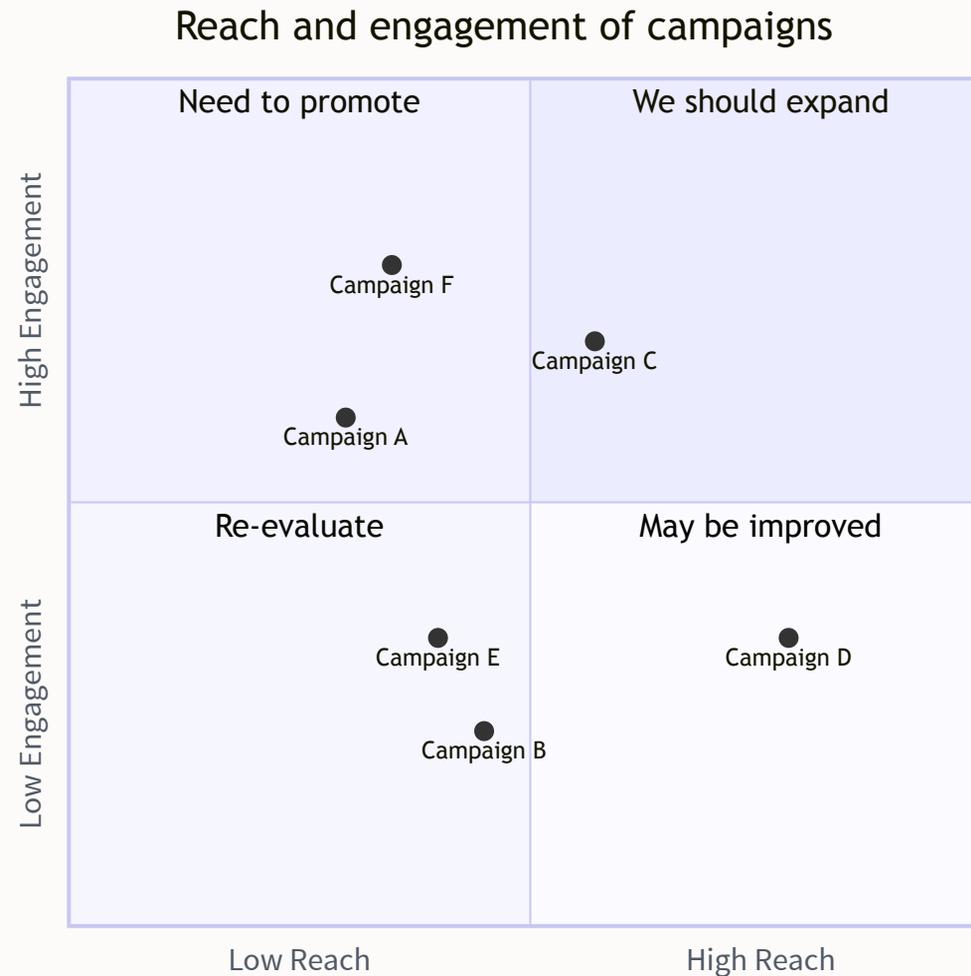
Algorithm: Probabilistic Demand Forecasting

1. Collect historical demand data (y_t)
2. Construct feature matrix (X_t)
 - a. Lagged demand
 - b. Calendar effects
 - c. External covariates
3. Estimate quantile regression model
4. Generate predictive quantiles
5. Evaluate forecast accuracy

Diagrams

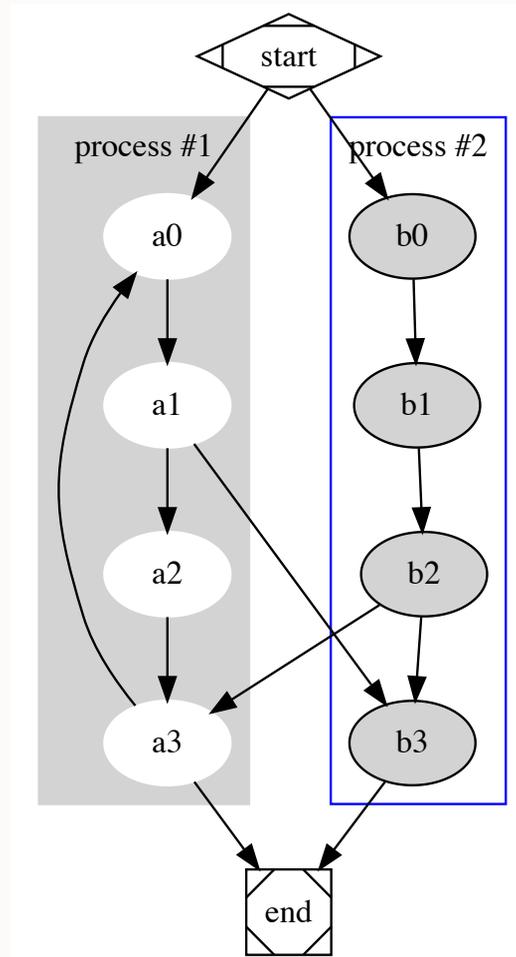
Mermaid Diagram

you may use [Mermaid editor live](#)



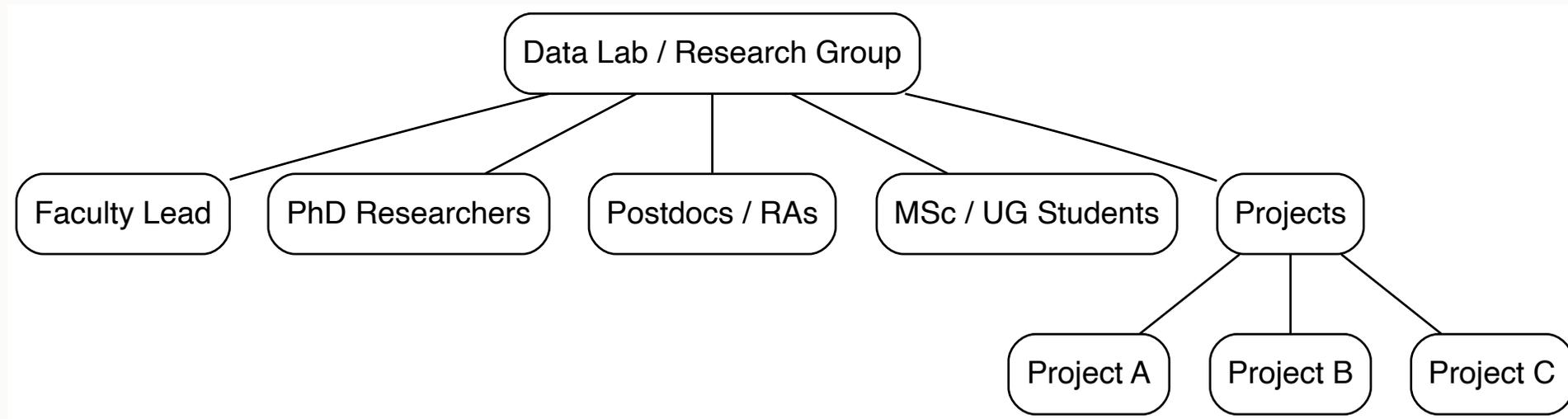
Graphviz

you may Use Graphviz Online Editor



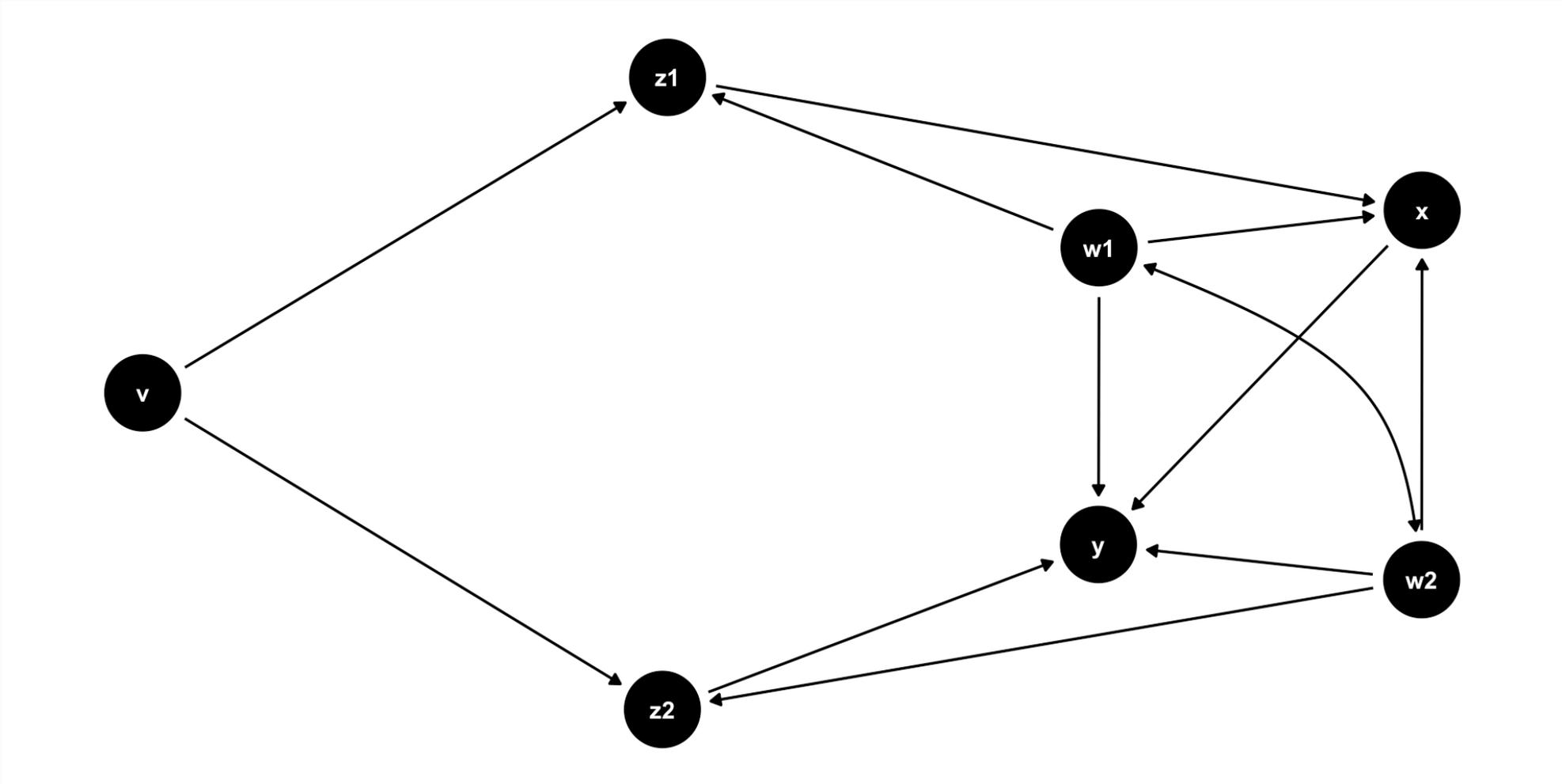
DiagrammeR

Use DiagrammeR



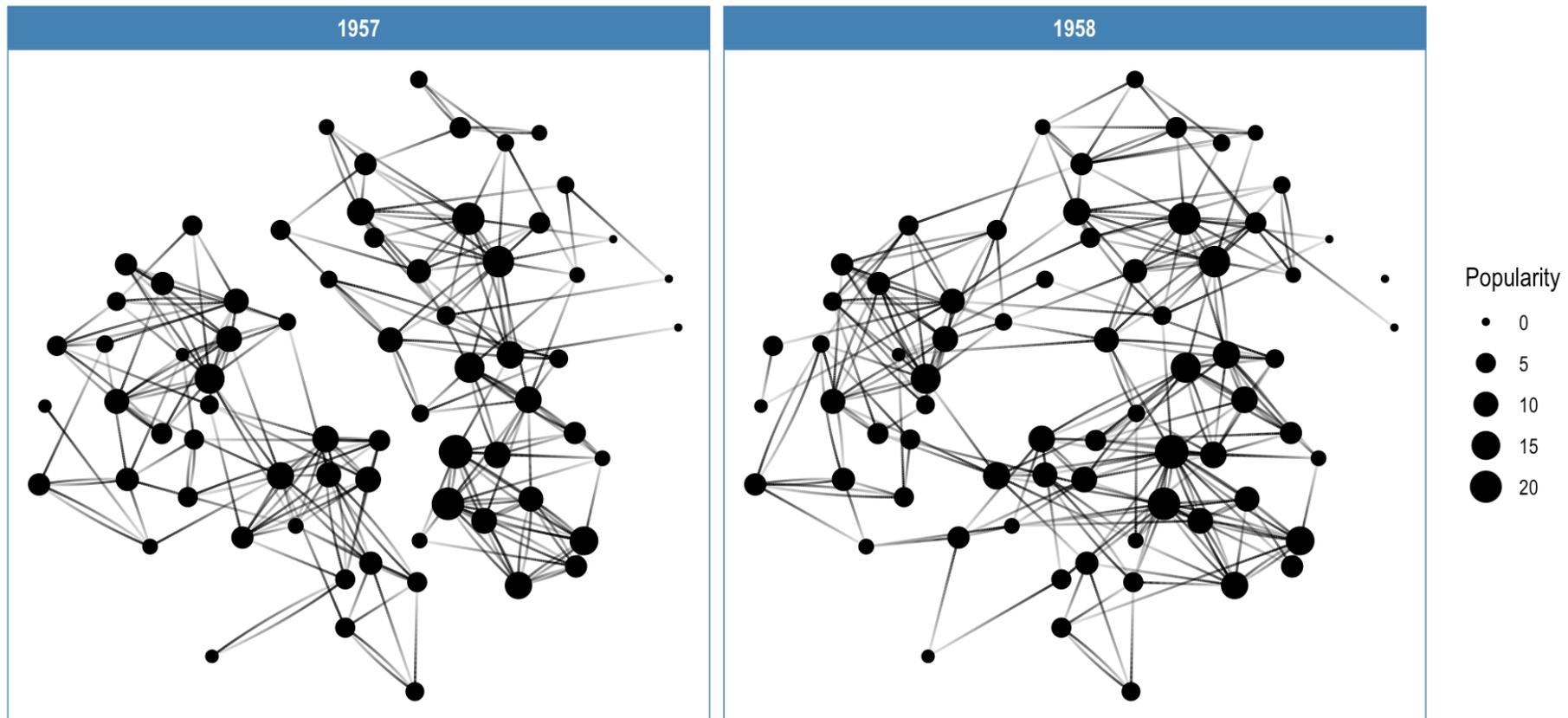
causal directed acyclic graphs

Use `ggdag` package



Use ggraph

use ggraph



Reference slide

Include invisibile slide

soemtimes you want to include a slide that is not counted in the slide number and is not shown in the slide overview, you may have some details at the end, in case useful in Q/A, etc, you can do it using the following syntax

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