

Gapminder visualization

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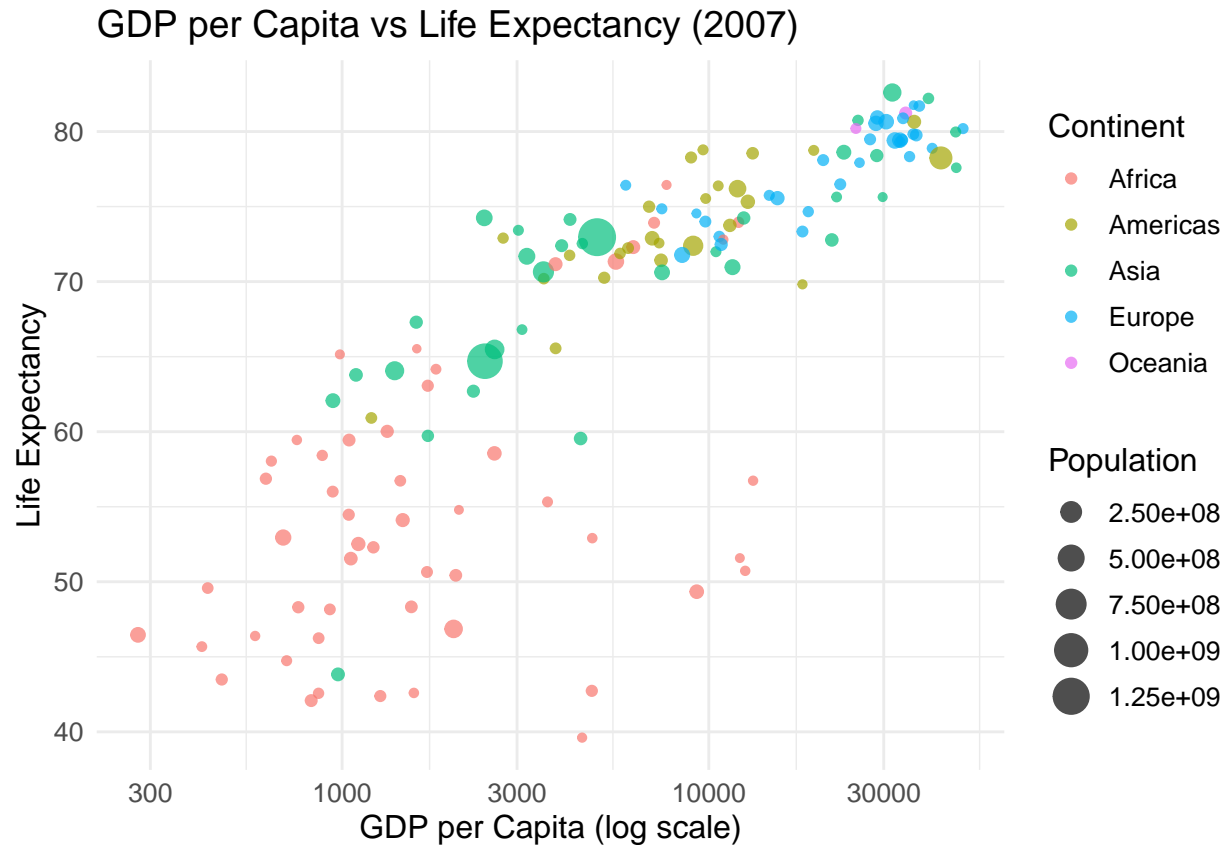
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importing dataset

```
library(gapminder)
df <- gapminder
```

Scatter plot of GDP per capita vs Life Expectancy

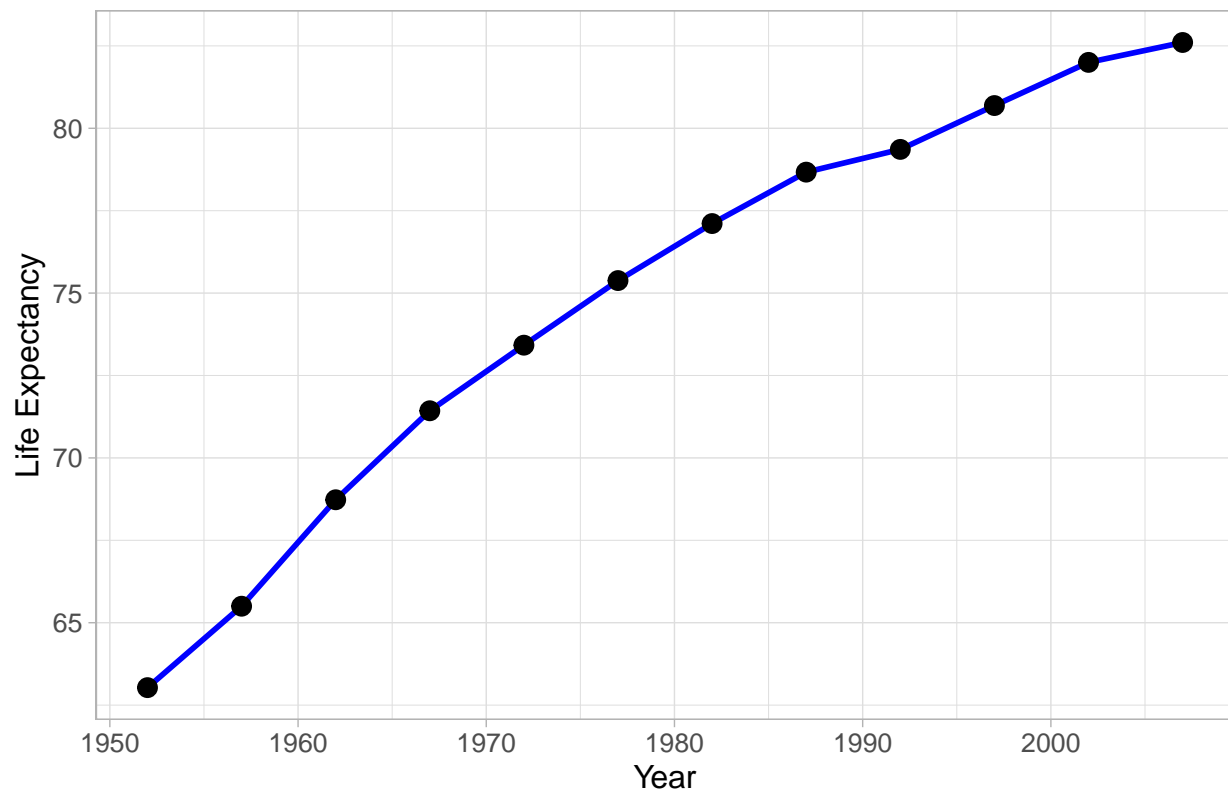
```
library(tidyverse)
library(ggplot2)
library(gapminder)
gapminder %>%
  filter(year == 2007) %>% # Filter for the year 2007
  ggplot(aes(x = gdpPercap, y = lifeExp, color = continent, size = pop)) +
  geom_point(alpha = 0.7) + # Add points with some transparency
  scale_x_log10() + # Log scale for GDP
  labs(title = "GDP per Capita vs Life Expectancy (2007)",
        x = "GDP per Capita (log scale)",
        y = "Life Expectancy",
        color = "Continent",
        size = "Population") +
  theme_minimal() + # Minimal theme for elegance
  theme(text = element_text(size = 12))
```



Line plot of Life Expectancy over time for a specific country

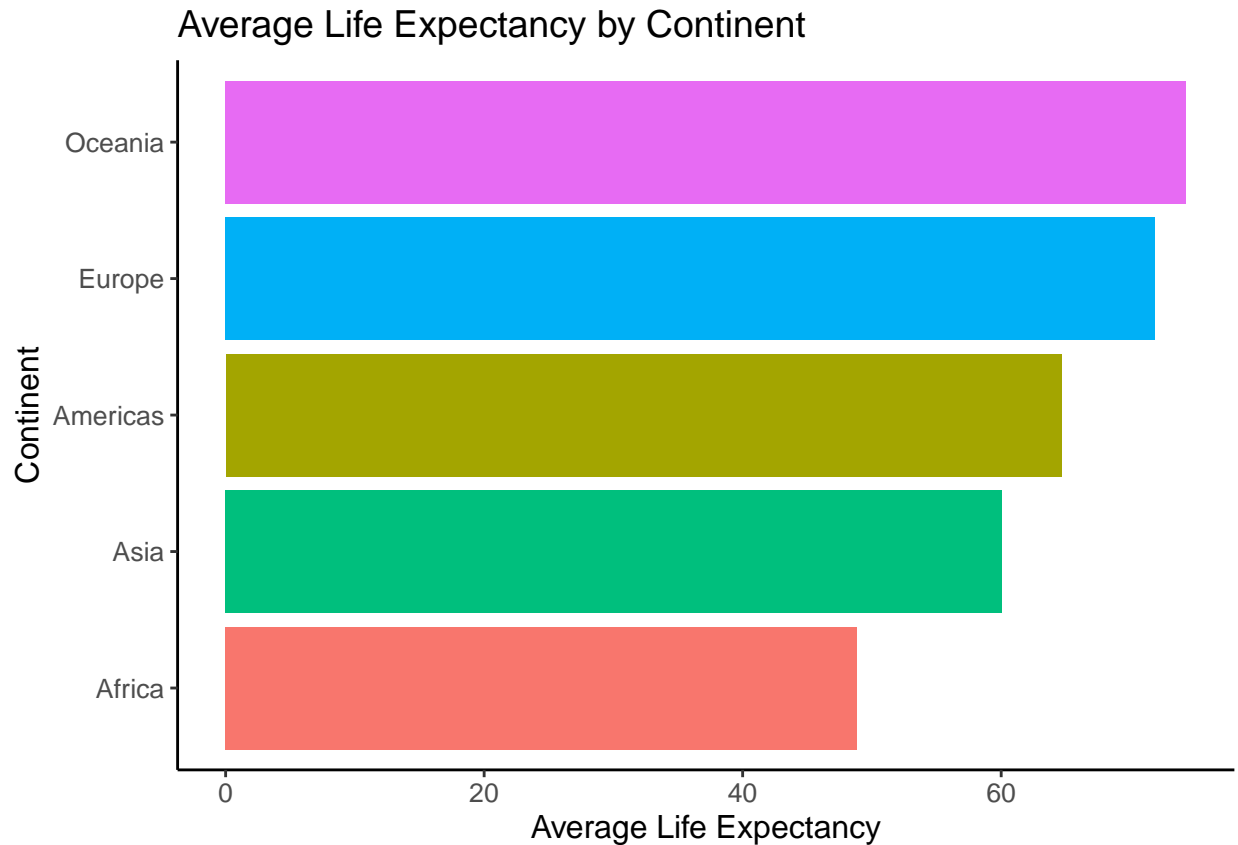
```
gapminder %>%
  filter(country == "Japan") %>% # Filter for Japan
  ggplot(aes(x = year, y = lifeExp)) +
  geom_line(color = "blue", size = 1) + # Line for Life Expectancy
  geom_point(size = 3) + # Add points to the line
  labs(title = "Life Expectancy in Japan (1952-2007)",
        x = "Year",
        y = "Life Expectancy") +
  theme_light() + # Light theme for clarity
  theme(text = element_text(size = 12))
```

Life Expectancy in Japan (1952–2007)



Bar plot of average life expectancy by continent

```
library(ggplot2)
library(gapminder)
gapminder %>%
  group_by(continent) %>%
  summarize(avg_lifeExp = mean(lifeExp)) %>%
  ggplot(aes(x = reorder(continent, avg_lifeExp), y = avg_lifeExp, fill = continent)) +
  geom_bar(stat = "identity") +
  labs(title = "Average Life Expectancy by Continent",
       x = "Continent",
       y = "Average Life Expectancy") +
  theme_classic() + # Classic theme for a clean look
  theme(text = element_text(size = 12), legend.position = "none") +
  coord_flip() # Flip coordinates for better readability
```



Faceted plot of life expectancy over time by continent

```
library(ggplot2)
library(gapminder)
ggplot(gapminder, aes(x = year, y = lifeExp, color = country)) +
  geom_line() + # Line for each country
  facet_wrap(~ continent) + # Facet by continent
  labs(title = "Life Expectancy Over Time by Continent",
       x = "Year",
       y = "Life Expectancy") +
  theme_bw() + # Black and white theme for clarity
  theme(text = element_text(size = 12))
```

Continent

Asia	Dominican Republic	Honduras	Lebanon	Netherlands
Africa	Ecuador	Hong Kong, China	Lesotho	New Zealand
	Egypt	Hungary	Liberia	Nicaragua
African Republic	El Salvador	Iceland	Libya	Niger
	Equatorial Guinea	India	Madagascar	Nigeria
	Eritrea	Indonesia	Malawi	Norway
	Ethiopia	Iran	Malaysia	Oman
Europe	Finland	Iraq	Mali	Pakistan
	France	Ireland	Mauritania	Panama
Dem. Rep.	Gabon	Israel	Mauritius	Paraguay
Rep.	Gambia	Italy	Mexico	Peru
Canada	Germany	Jamaica	Mongolia	Philippines
North America	Ghana	Japan	Montenegro	Poland
	Greece	Jordan	Morocco	Portugal
	Guatemala	Kenya	Mozambique	Puerto Rico
South America	Guinea	Korea, Dem. Rep.	Myanmar	Reunion
	Guinea-Bissau	Korea, Rep.	Namibia	Romania
	Haiti	Kuwait	Nepal	Rwanda

Boxplot of life expectancy by continent

```
library(ggplot2)
library(gapminder)

ggplot(gapminder, aes(x = continent, y = lifeExp, fill = continent)) +
  geom_boxplot() + # Boxplot for distribution
  labs(title = "Life Expectancy Distribution by Continent",
       x = "Continent",
       y = "Life Expectancy") +
  theme_minimal() + # Minimal theme for elegance
  theme(text = element_text(size = 12), legend.position = "none")
```

