Global Trends in Life Expectancy: A Gapminder Data Exploration

Social trends and economic GDP

This analysis aims to explore global life expectancy trends over time using the Gapminder dataset. We will examine how life expectancy has changed and discuss potential socioeconomic factors that might influence these changes.

Load necessary libaraies

```
library(gapminder)
library(ggplot2)
library(dplyr)
```

```
Attaching package: 'dplyr'

The following objects are masked from 'package:stats':

    filter, lag

The following objects are masked from 'package:base':

    intersect, setdiff, setequal, union
```

Load the Dataset

```
data(gapminder)
head(gapminder)
```

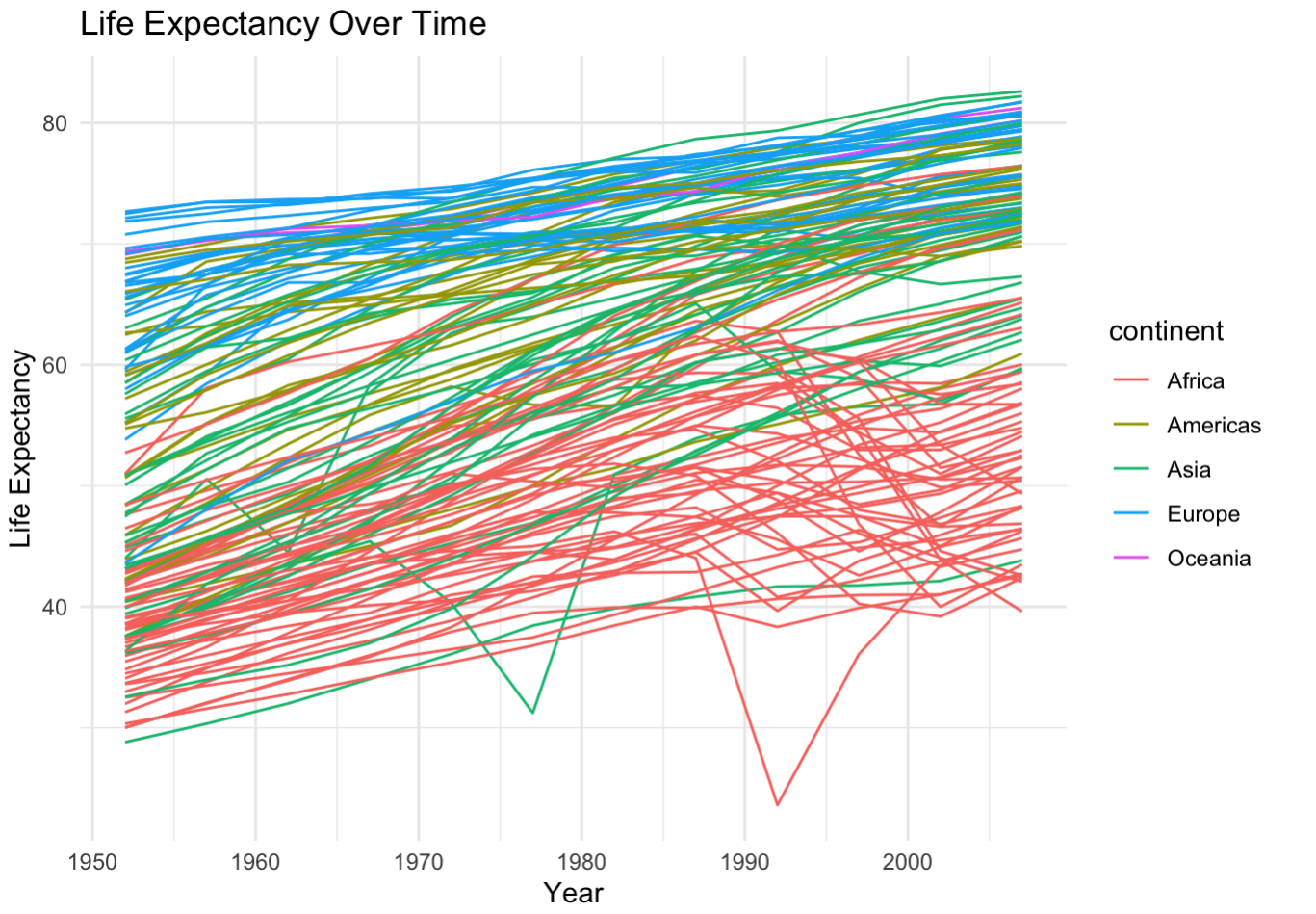
```
# A tibble: 6 × 6
  country     continent  year lifeExp      pop gdpPercap
  <fct>       <fct>     <int>   <dbl>    <int>     <dbl>
```

```
1 Afghanistan Asia       1952    28.8  8425333      779.
2 Afghanistan Asia       1957    30.3  9240934      821.
3 Afghanistan Asia       1962    32.0 10267083      853.
4 Afghanistan Asia       1967    34.0 11537966      836.
5 Afghanistan Asia       1972    36.1 13079460      740.
6 Afghanistan Asia       1977    38.4 14880372      786.
```

We load the Gapminder dataset and display the first few rows to understand its structure. This dataset includes columns such as country, year, population, continent, life expectancy (`lifeExp`), and GDP per capita (`gdpPercap`).

Data Visualization: Life Expectancy Over Time

```
ggplot(gapminder, aes(x = year, y = lifeExp, group = country, color = c
  geom_line() +
  theme_minimal() +
  labs(title = "Life Expectancy Over Time", x = "Year", y = "Life Expec
```



Here, we plot life expectancy over time for different countries, color-coded by continent. This visualization helps us observe trends and variations in life expectancy across different regions.

Analyzing Life Expectancy Trends

```
gapminder %>%
  group_by(year) %>%
  summarize(mean_lifeExp = mean(lifeExp))
```

```
# A tibble: 12 × 2
    year mean_lifeExp
   <int>        <dbl>
 1  1952         49.1
 2  1957         51.5
 3  1962         53.6
 4  1967         55.7
 5  1972         57.6
 6  1977         59.6
 7  1982         61.5
 8  1987         63.2
 9  1992         64.2
10  1997         65.0
11  2002         65.7
12  2007         67.0
```