

Exploring Gapminder Dataset (HW1 - STAT 545)

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First, we load a dataset called 'gapminder' in R.

```
##      country      continent      year      lifeExp
## Afghanistan: 12 Africa :624 Min. :1952 Min. :23.60
## Albania : 12 Americas:300 1st Qu.:1966 1st Qu.:48.20
## Algeria : 12 Asia :396 Median :1980 Median :60.71
## Angola : 12 Europe :360 Mean :1980 Mean :59.47
## Argentina : 12 Oceania : 24 3rd Qu.:1993 3rd Qu.:70.85
## Australia : 12 Max. :2007 Max. :82.60
## (Other) :1632
##      pop      gdpPercap
## Min. :6.001e+04 Min. : 241.2
## 1st Qu.:2.794e+06 1st Qu.: 1202.1
## Median :7.024e+06 Median : 3531.8
## Mean :2.960e+07 Mean : 7215.3
## 3rd Qu.:1.959e+07 3rd Qu.: 9325.5
## Max. :1.319e+09 Max. :113523.1
##
```

Examine the dataset overall

The dataset contains 1704 rows and 6 columns.

We have the following variables:

```
## [1] "country" "continent" "year" "lifeExp" "pop" "gdpPercap"
```

The number of countries in the dataset is 142. The number of years in the dataset is 12.

Find answers to specific questions related to life expectancy and GDP per capita

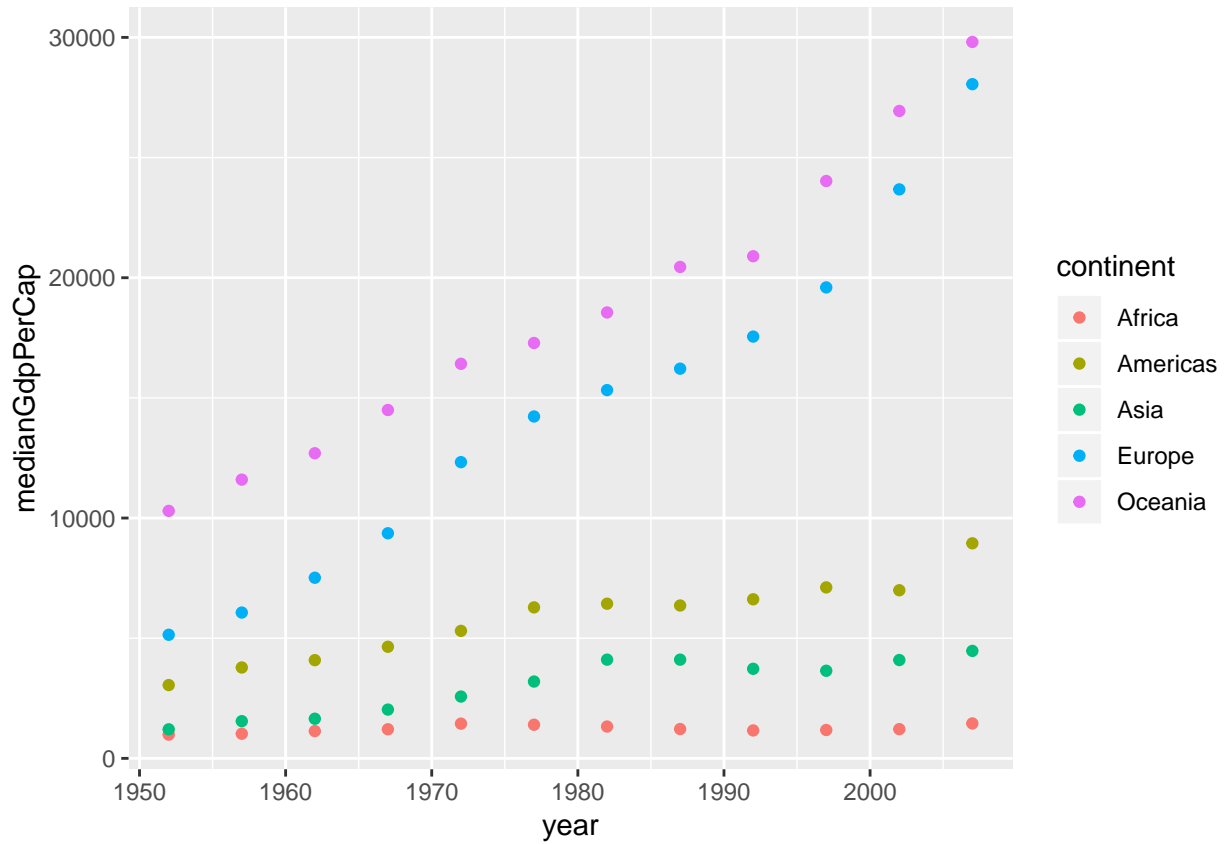
1. What was the mean life expectancy across all countries throughout the years in the dataset?

It is:

```
## [1] 59.47444
```

2. What was the change of the median GDP per capita over time?

We need to summarize the median GDP per capita within each continent within each year and plot the results to show the answer.



Based on the plot, we see that Oceania and Europe had the highest rate of increase in median GDP per capita, followed by Americas, Asia, and Africa.