plot

Load library

maybe the dslabs not needed.

```
library(dslabs)
library(tidyverse)
```

```
## -- Attaching core tidyverse packages ------------------------ tidyverse 2.0.0 --
## v dplyr     1.1.4     v readr     2.1.5
## v forcats   1.0.0     v stringr   1.5.2
## v ggplot2   4.0.0     v tibble    3.3.0
## v lubridate 1.9.4     v tidyr     1.3.1
## v purrr     1.1.0
## -- Conflicts ------------------------------------------ tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()    masks stats::lag()
## i Use the conflicted package (<http://conflicted.r-lib.org/>) to force all conflicts to become errors
```

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

```
## Warning: package 'gapminder' was built under R version 4.5.2
```

```
##
## Attaching package: 'gapminder'
##
## The following object is masked from 'package:dslabs':
##
##     gapminder
```

Load data

```
data("gapminder")
```

Check head

```
head(gapminder)
```

```
## # A tibble: 6 x 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.
```

Now I want to do the following:

- Sort the data
- Plot the data

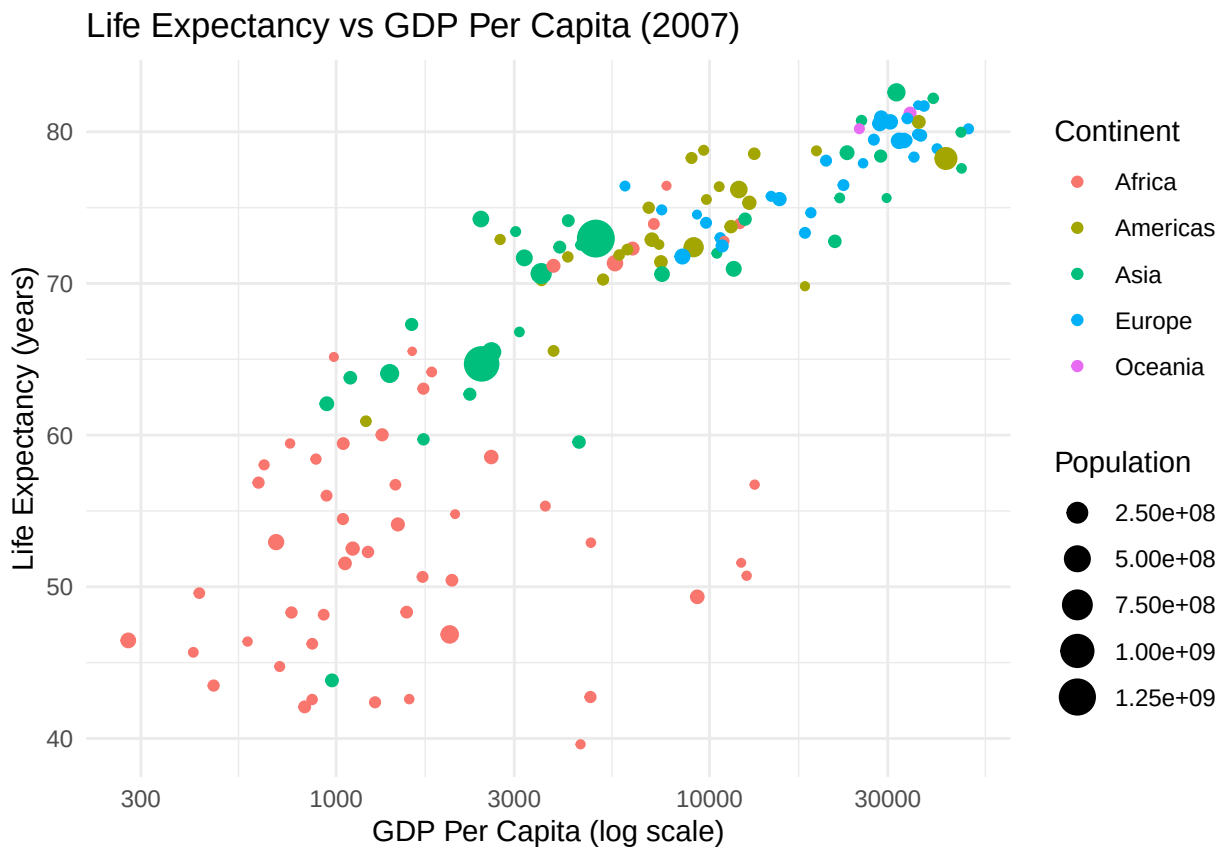
Sort Data

```
oldest_year <- min(gapminder$year)
sprintf("The oldest data is from %d AD.", oldest_year)
```

```
## [1] "The oldest data is from 1952 AD."
```

Plot data

```
ggplot(data = gapminder %>% filter(year == 2007)) +
  geom_point(aes(
    x = gdpPercap,            # GDP per capita on x-axis
    y = lifeExp,              # Life expectancy on y-axis
    color = continent,        # Color points by continent
    size = pop                # Size points by population
  )) +
  scale_x_log10() +           # Log scale for GDP axis
  labs(
    title = "Life Expectancy vs GDP Per Capita (2007)",
    x = "GDP Per Capita (log scale)",
    y = "Life Expectancy (years)",
    color = "Continent",
    size = "Population"
  ) +
  theme_minimal()             # Use a clean theme
```


Life Expectancy vs GDP Per Capita (2007)
Life Expectancy (years)
80
70
60
50
40
300
1000
3000
10000
30000
GDP Per Capita (log scale)
Continent
Africa
Americas
Asia
Europe
Oceania
Population
2.50e+08
5.00e+08
7.50e+08
1.00e+09
1.25e+09