

Task6

Darya Nemirich

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```
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

library("datasets")
df <- iris
head(df)

##   Sepal.Length Sepal.Width Petal.Length Petal.Width Species
## 1         5.1         3.5          1.4          0.2  setosa
## 2         4.9         3.0          1.4          0.2  setosa
## 3         4.7         3.2          1.3          0.2  setosa
## 4         4.6         3.1          1.5          0.2  setosa
## 5         5.0         3.6          1.4          0.2  setosa
## 6         5.4         3.9          1.7          0.4  setosa

iris_long <- df %>%
  transmute(Species, Part = 'Petal', Length = Petal.Length, Width = Petal.Width)
iris_long_2 <- df %>%
  transmute(Species, Part = 'Sepal', Length = Sepal.Length, Width = Sepal.Width)

iris_long <- rbind(iris_long, iris_long_2)

head(iris_long)

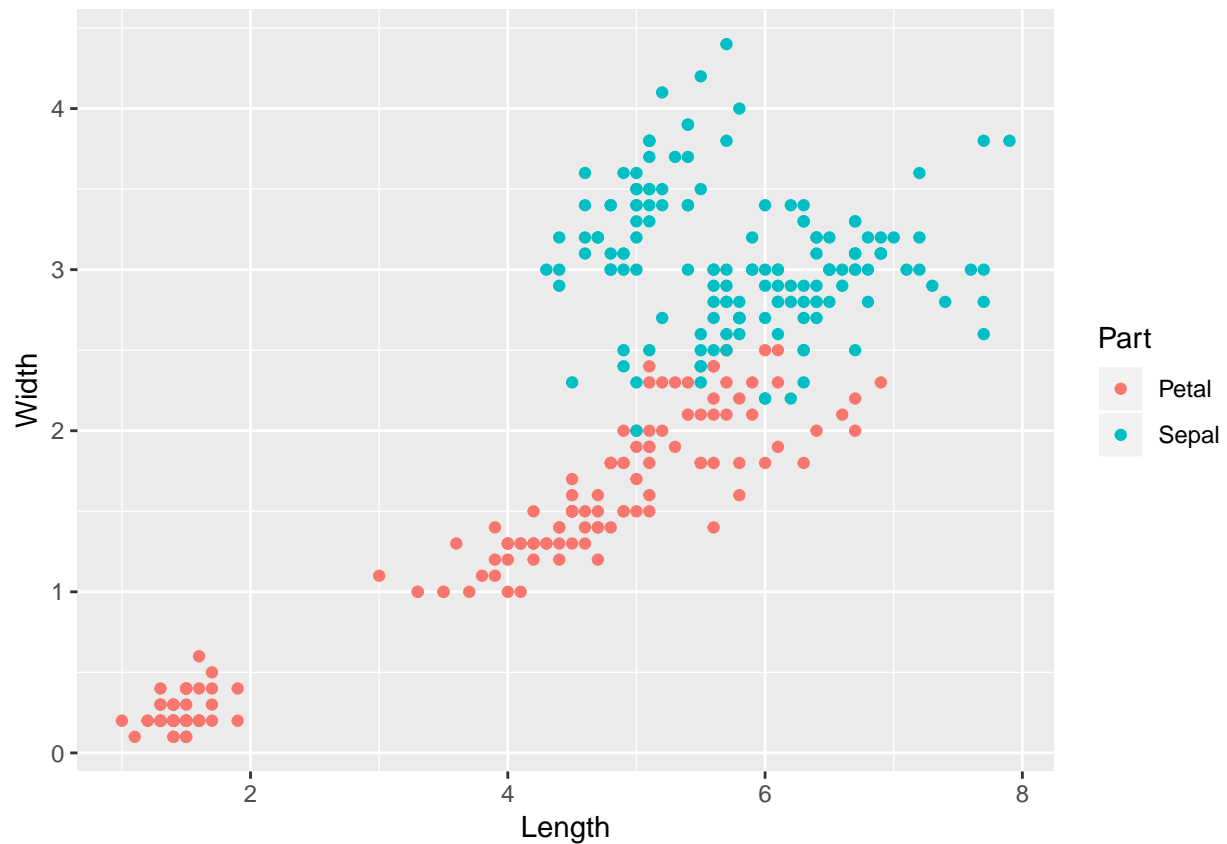
##   Species Part Length Width
## 1  setosa Petal   1.4   0.2
## 2  setosa Petal   1.4   0.2
## 3  setosa Petal   1.3   0.2
## 4  setosa Petal   1.5   0.2
## 5  setosa Petal   1.4   0.2
## 6  setosa Petal   1.7   0.4

str(iris_long)

## 'data.frame':   300 obs. of  4 variables:
##  $ Species: Factor w/ 3 levels "setosa","versicolor",...: 1 1 1 1 1 1 1 1 1 1 ...
##  $ Part   : chr  "Petal" "Petal" "Petal" "Petal" ...
##  $ Length : num  1.4 1.4 1.3 1.5 1.4 1.7 1.4 1.5 1.4 1.5 ...
```

```
## $ Width : num 0.2 0.2 0.2 0.2 0.2 0.4 0.3 0.2 0.2 0.1 ...
```

```
ggplot(iris_long, aes(x = Length,
                      y = Width,
                      color = Part)) +
  geom_point()
```

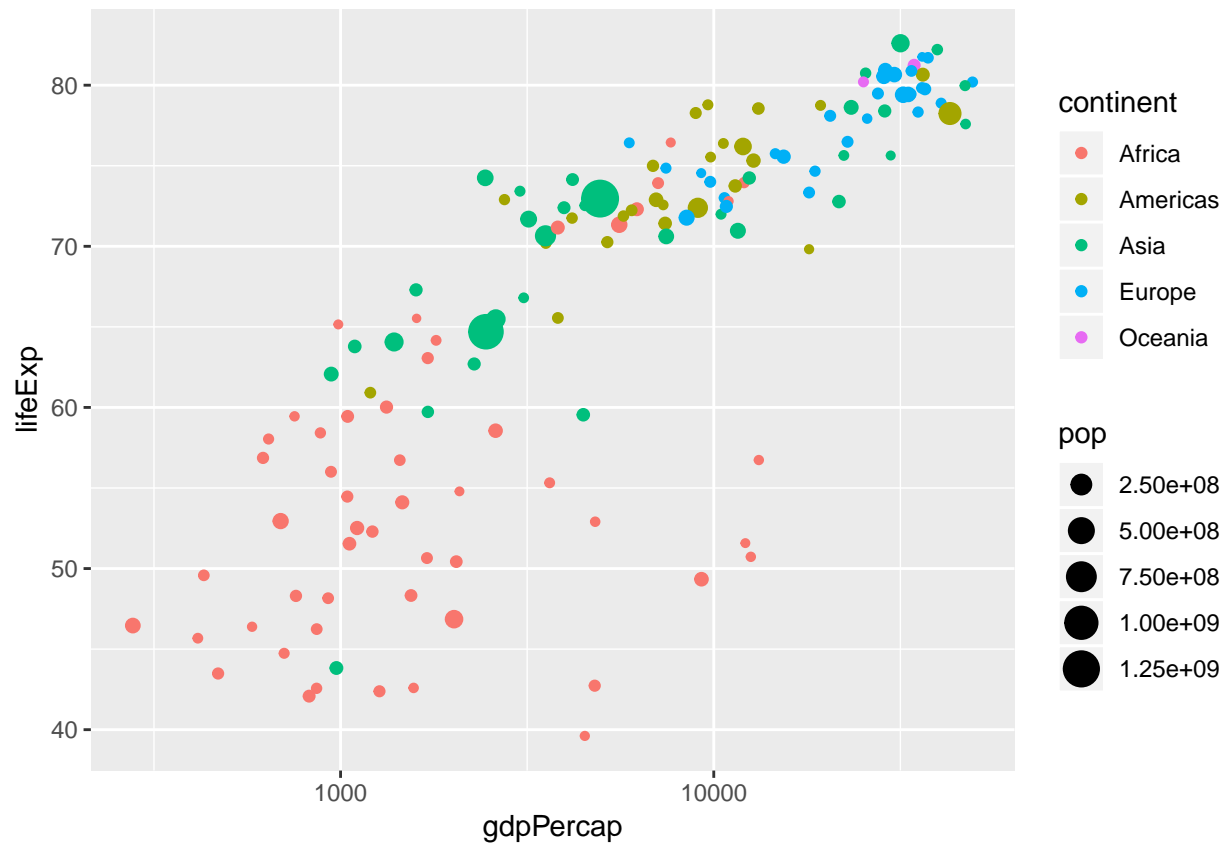


```
library('gapminder')
head(gapminder)
```

```
## # 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.
```

```
gapminder_2007 <- gapminder %>%
  filter(year == 2007)
```

```
ggplot(gapminder_2007, aes(x = gdpPercap,
                          y = lifeExp,
                          color = continent)) +
  geom_point(aes(size = pop)) +
  scale_x_log10(breaks = c(1000, 10000))
```

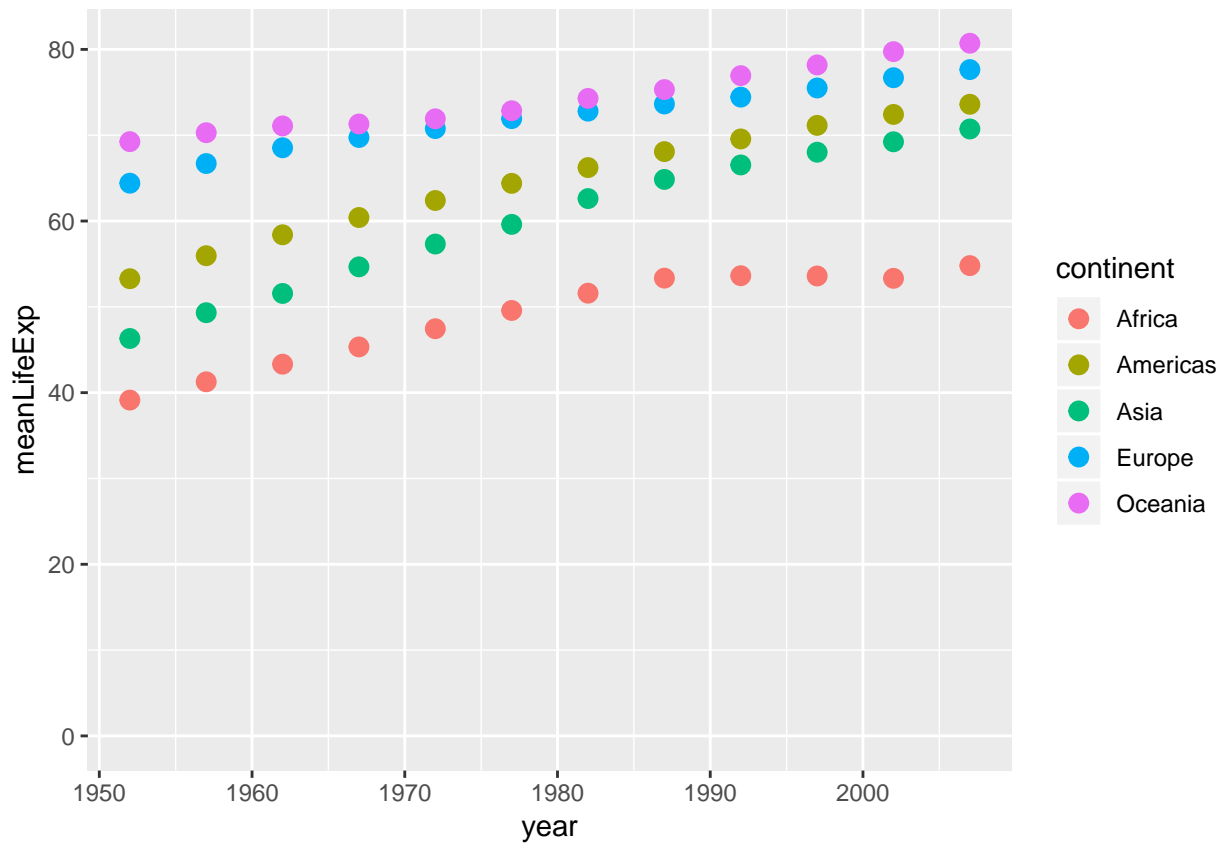


```
gapminder_new <- gapminder %>%
  group_by(year, continent) %>%
  summarise(popTotal = sum(pop / 1000000), meanLifeExp = mean(lifeExp))
```

```
head(gapminder_new)
```

```
## # A tibble: 6 x 4
## # Groups:   year [2]
##   year continent popTotal meanLifeExp
##   <int> <fct>      <dbl>      <dbl>
## 1  1952 Africa      238.        39.1
## 2  1952 Americas    345.        53.3
## 3  1952 Asia      1395.        46.3
## 4  1952 Europe      418.        64.4
## 5  1952 Oceania     10.7        69.3
## 6  1957 Africa      265.        41.3
```

```
ggplot(gapminder_new, aes(x = year,
  y = meanLifeExp,
  color = continent)) +
  geom_point(size = 3) +
  ylim(0, max(gapminder_new$meanLifeExp))
```



```
ggplot(gapminder_new, aes(x = year,  
                           y = meanLifeExp,  
                           color = continent)) +  
  geom_line(size = 2) +  
  ylim(0, max(gapminder_new$meanLifeExp))
```

