

HW06

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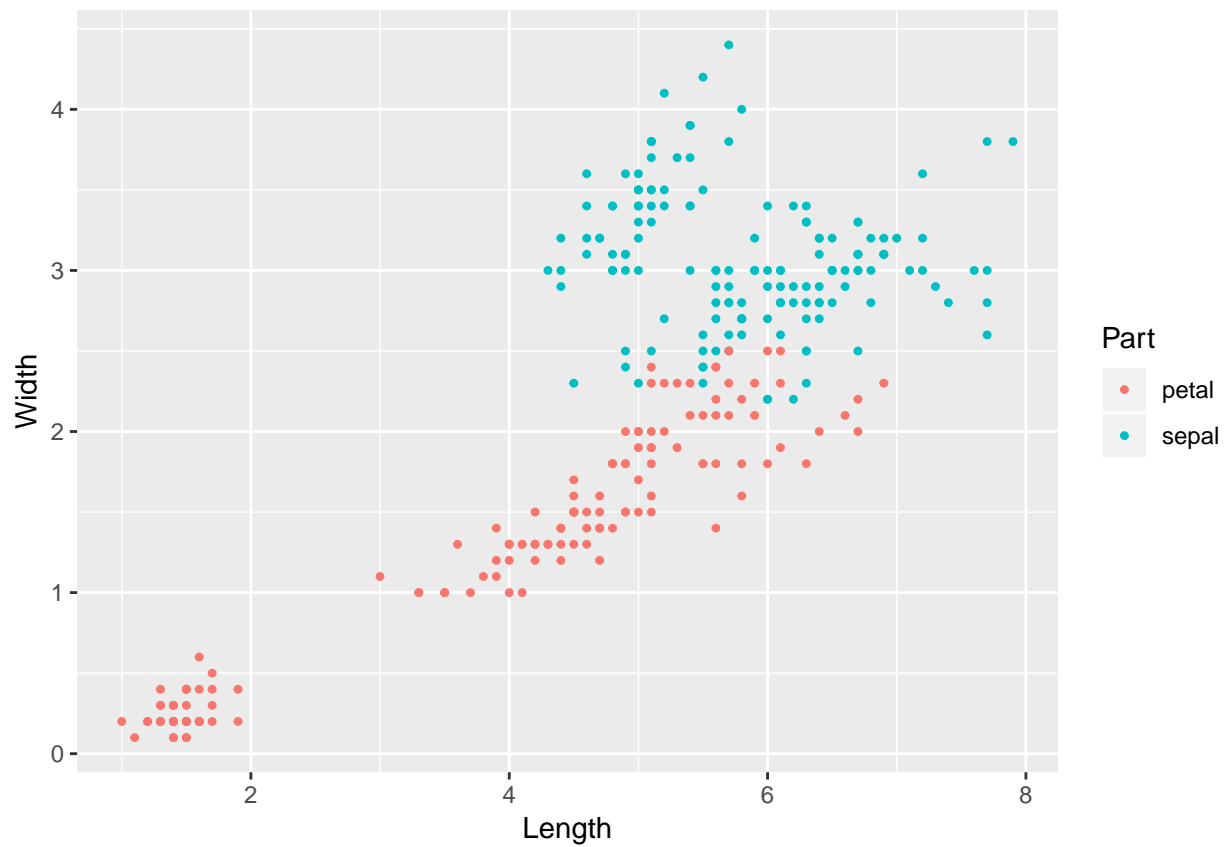
3 May 2019

```
set.seed(42)
library(gapminder)
library(ggplot2)
library(datasets)
library(dplyr)
```

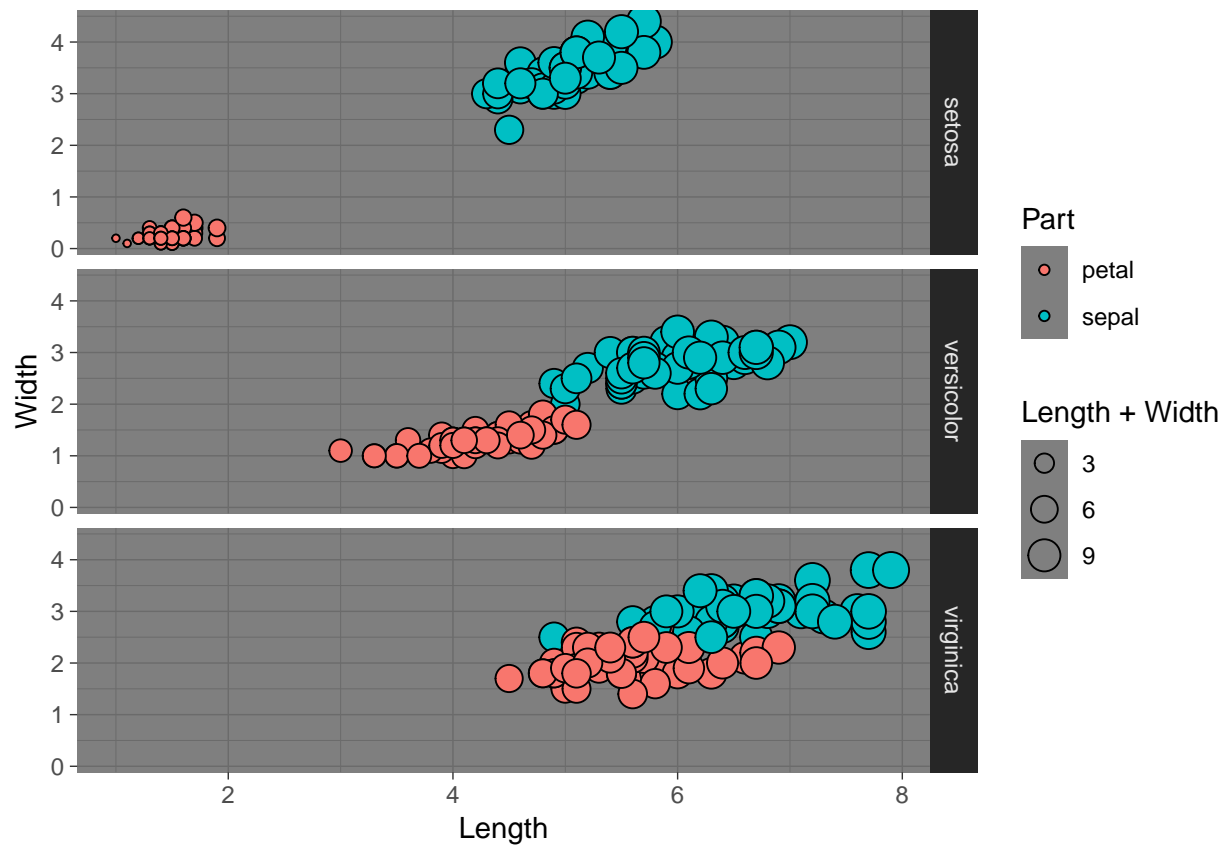
Task#1

```
df1 <- iris %>%
  transmute(Species, Part = 'sepal', Length = Sepal.Length, Width = Sepal.Width,
            id = as.numeric(row.names(iris)))
df2 <- iris %>%
  transmute(Species, Part = 'petal', Length = Petal.Length, Width = Petal.Width,
            id = as.numeric(row.names(iris)))
iris_long <- bind_rows(df1, df2) %>%
  arrange(id)
iris_long$id <- NULL

ggplot(iris_long, aes(x = Length, y = Width, color = Part)) +
  geom_point(shape = 20)
```



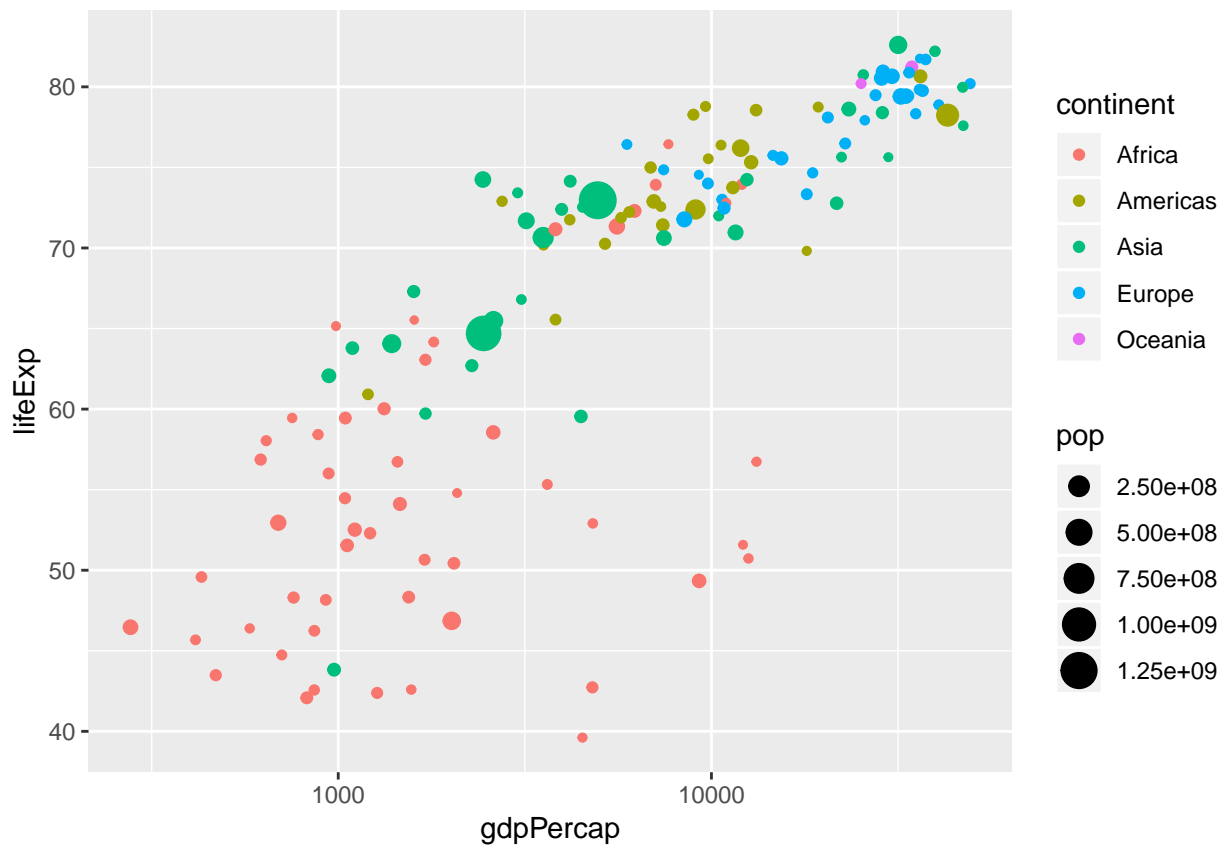
```
ggplot(iris_long, aes(x = Length, y = Width, fill = Part, size = Length + Width)) +  
  geom_point(shape = 21) +  
  facet_grid(Species ~ .) +  
  theme_dark()
```



Task#2

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

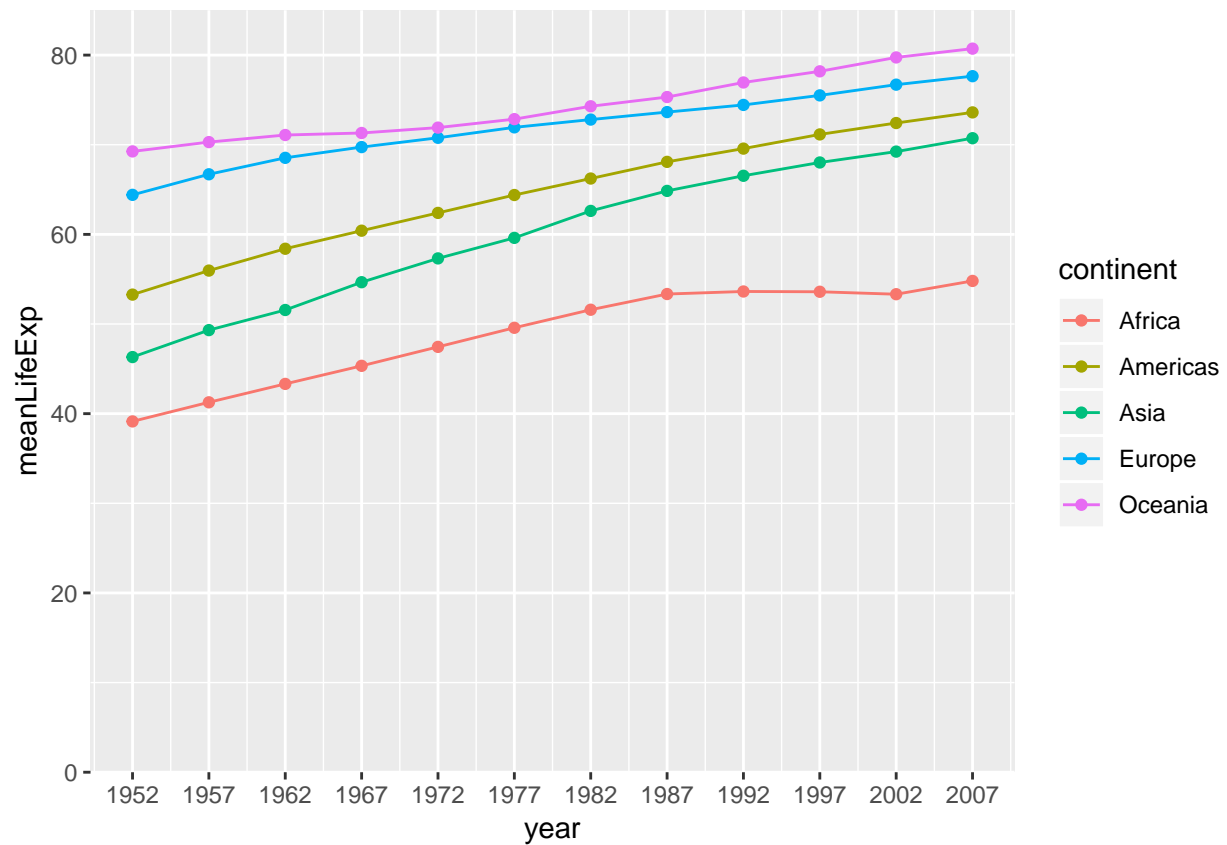
ggplot(df, aes(x = gdpPercap, y = lifeExp, color = continent, size = pop)) +
  geom_point() +
  scale_x_log10(breaks = c(1000, 10000))
```



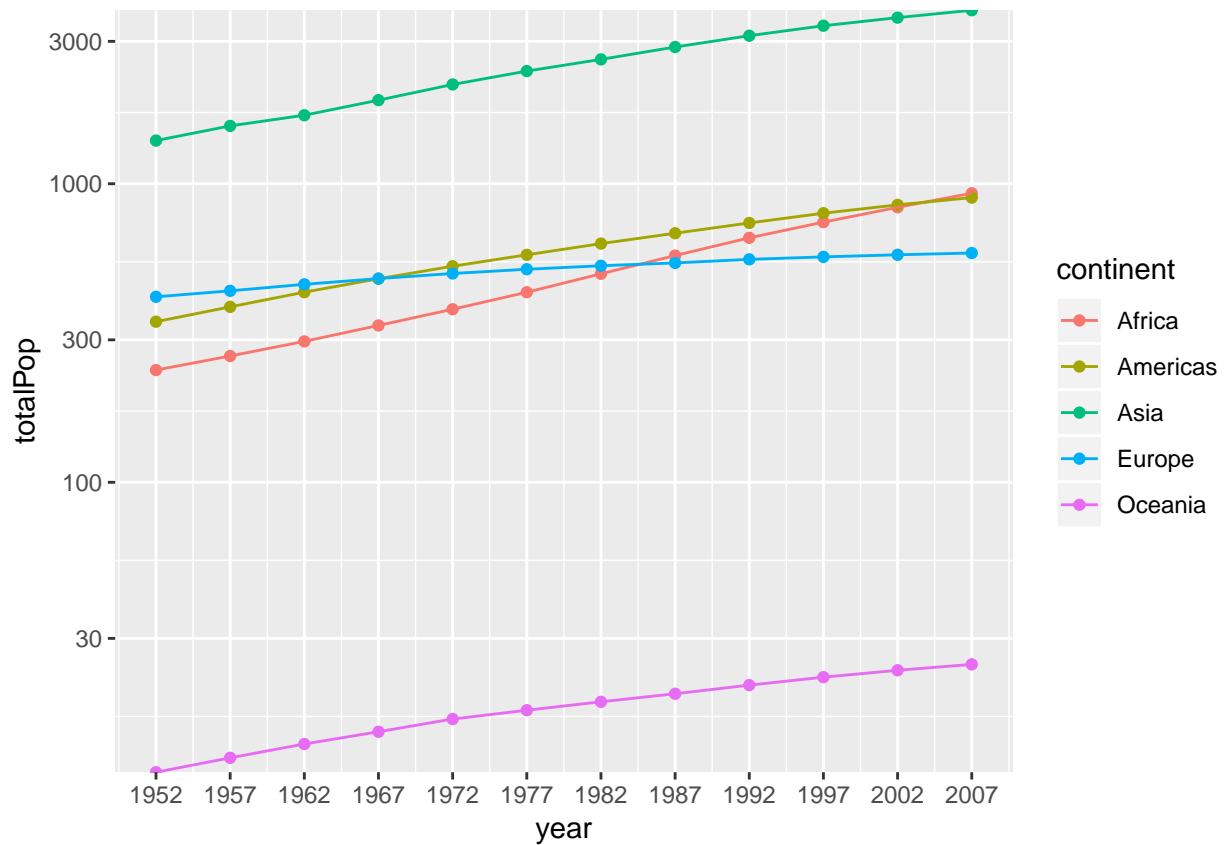
```
df <- gapminder %>%
  group_by(year, continent) %>%
  summarize(meanLifeExp = mean(lifeExp), totalPop = sum(pop) / 1000000)
df
```

```
## # A tibble: 60 x 4
## # Groups:   year [12]
##   year continent meanLifeExp totalPop
##   <int> <fct>      <dbl>      <dbl>
## 1 1952 Africa      39.1      238.
## 2 1952 Americas    53.3      345.
## 3 1952 Asia       46.3    1395.
## 4 1952 Europe     64.4      418.
## 5 1952 Oceania    69.3       10.7
## 6 1957 Africa     41.3      265.
## 7 1957 Americas    56.0      387.
## 8 1957 Asia       49.3    1563.
## 9 1957 Europe     66.7      438.
## 10 1957 Oceania    70.3       11.9
## # ... with 50 more rows
```

```
ggplot(df, aes(x = year, color = continent)) +
  geom_point(aes(y = meanLifeExp)) +
  geom_line(aes(y = meanLifeExp)) +
  scale_y_continuous(expand = c(0, 0), limits = c(0, 85)) +
  scale_x_continuous(breaks = seq(1952, 2007, by = 5))
```

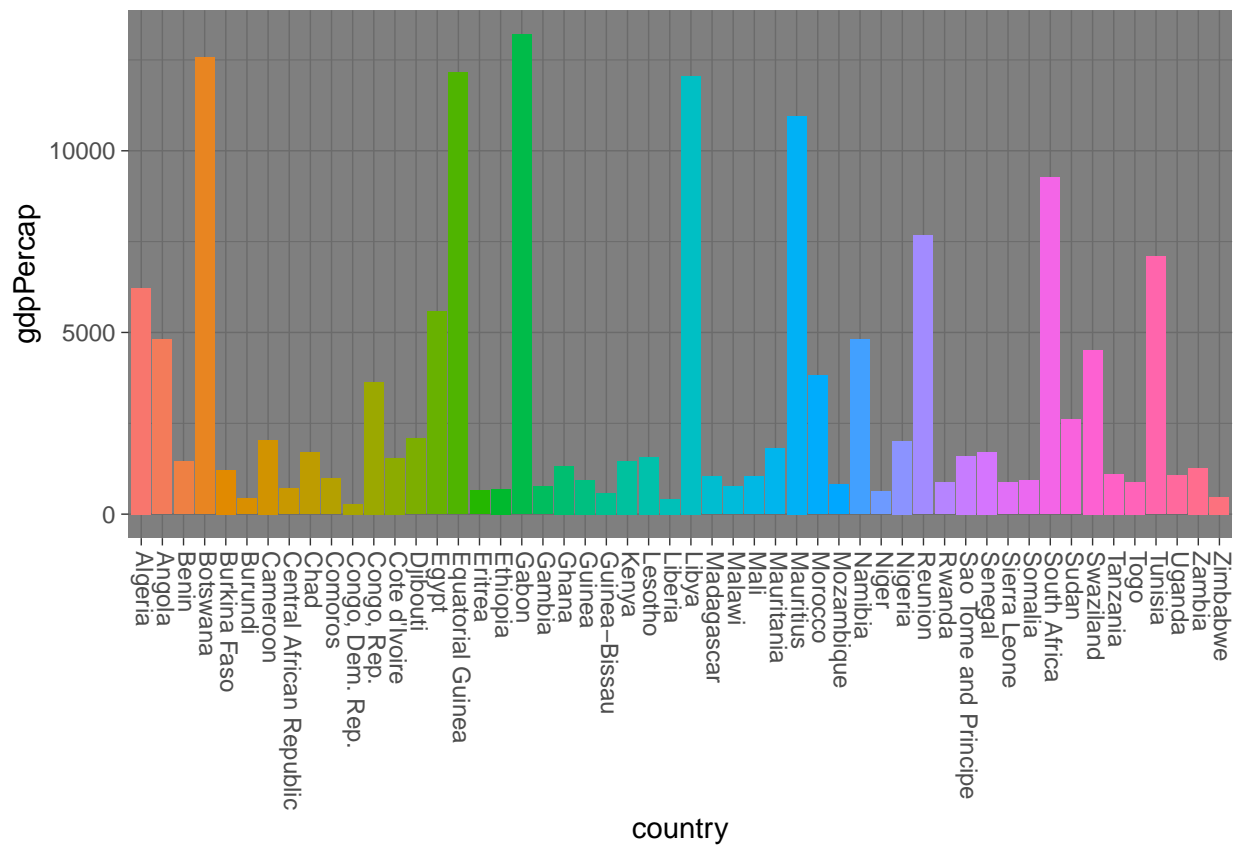


```
ggplot(df, aes(x = year, color = continent)) +
  geom_point(aes(y = totalPop)) +
  geom_line(aes(y = totalPop)) +
  scale_y_log10(expand = c(0, 0)) +
  scale_x_continuous(breaks = seq(1952, 2007, by = 5))
```

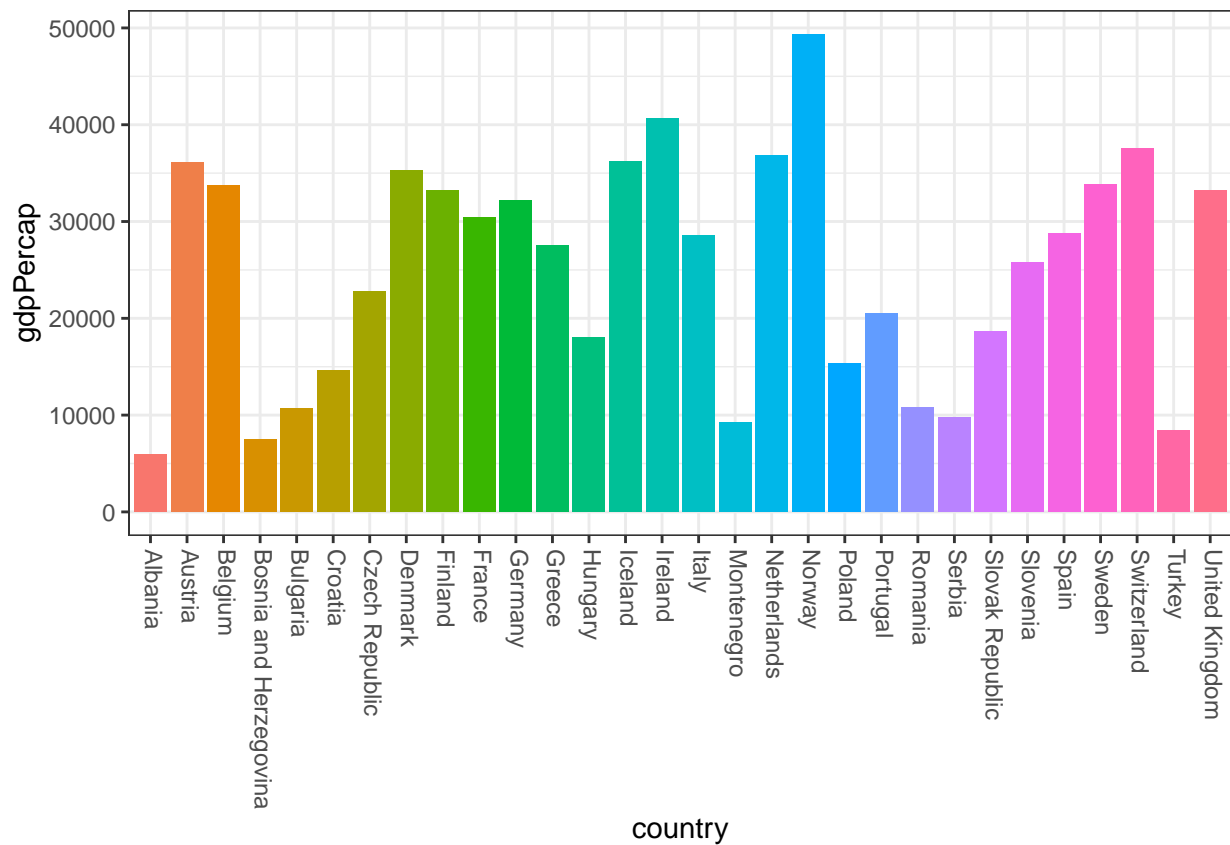


Task#3

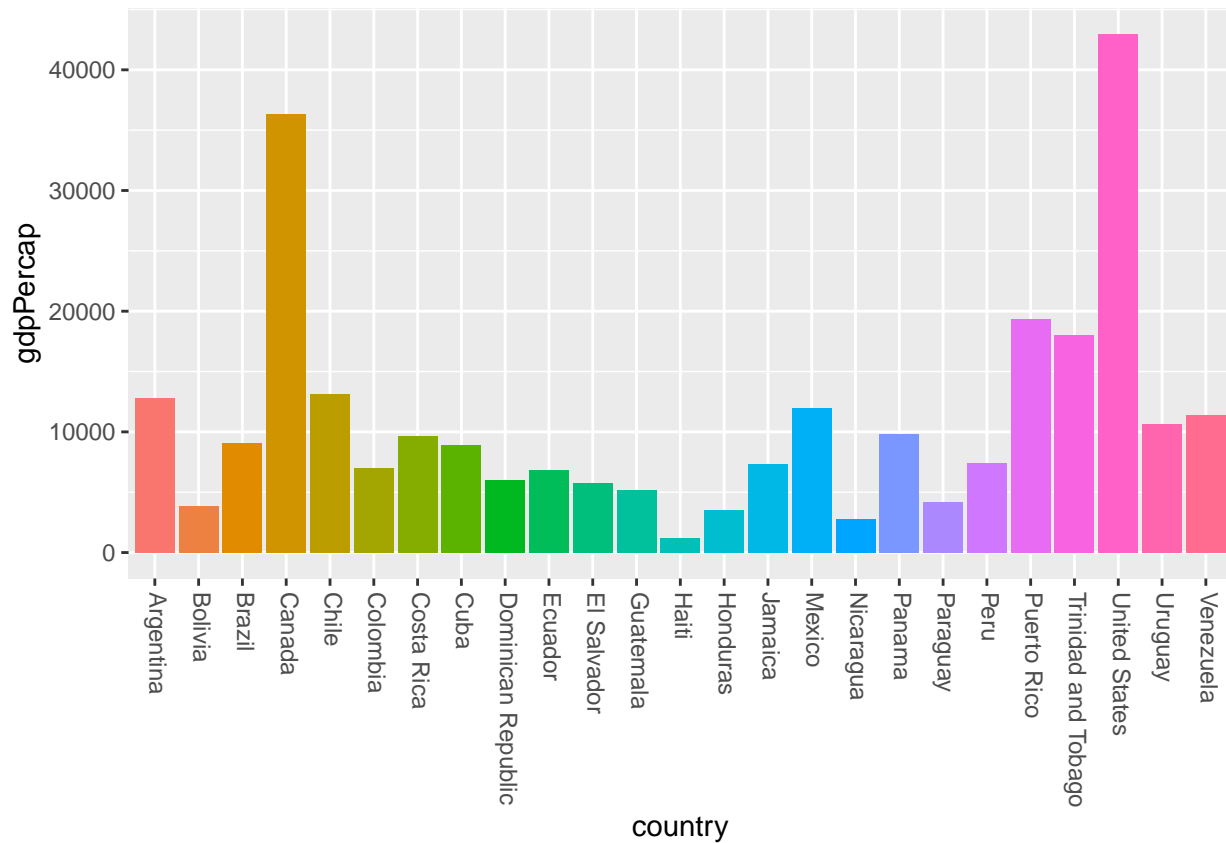
```
gapminder %>%
  filter(continent == "Africa", year == 2007) %>%
  ggplot(aes(x = country, y = gdpPercap, fill = country)) +
  geom_bar(stat = "Identity") +
  guides(fill=FALSE) +
  theme_dark() +
  theme(axis.text.x = element_text(angle = -90, hjust = 0, vjust = 0.3))
```



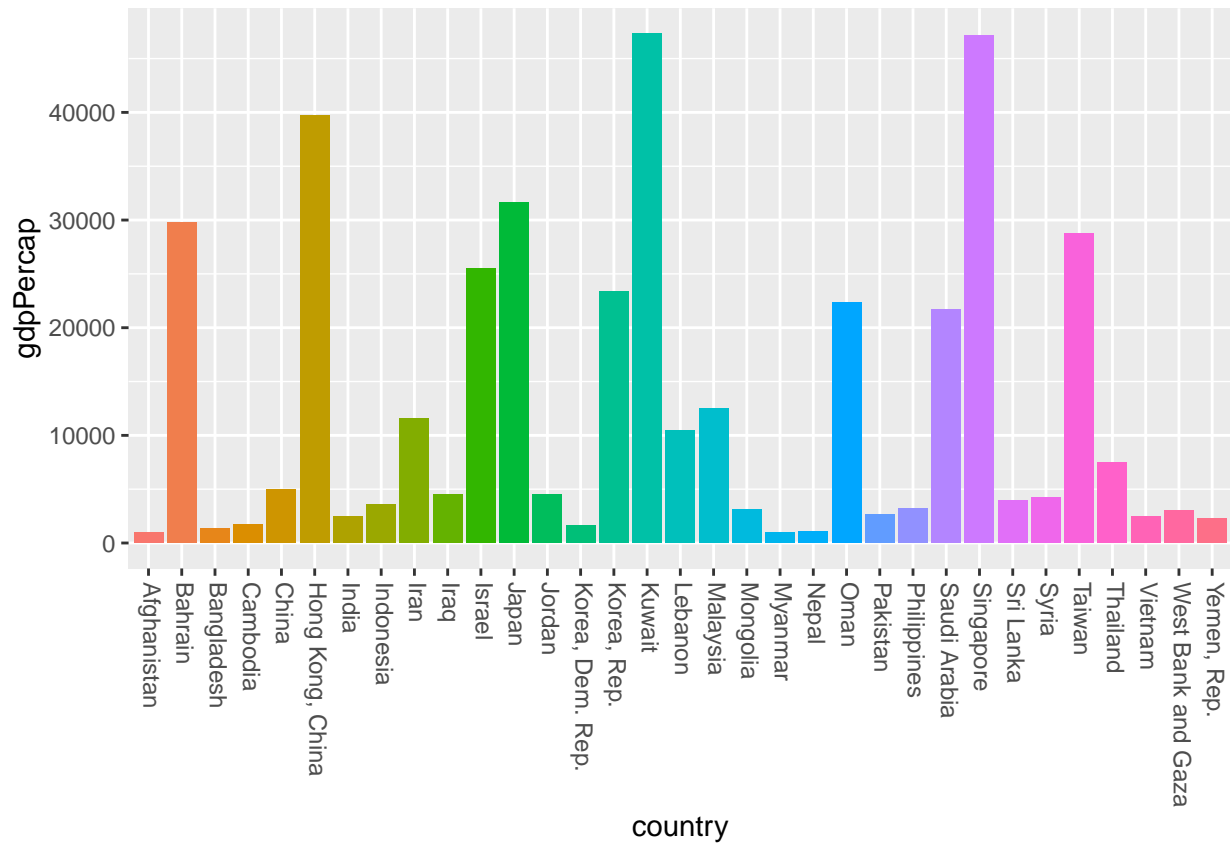
```
gapminder %>%
  filter(continent == "Europe", year == 2007) %>%
  ggplot(aes(x = country, y = gdpPercap, fill = country)) +
  geom_bar(stat = "Identity") +
  guides(fill=FALSE) +
  theme_bw() +
  theme(axis.text.x = element_text(angle = -90, hjust = 0, vjust = 0.3))
```



```
gapminder %>%
  filter(continent == "Americas", year == 2007) %>%
  ggplot(aes(x = country, y = gdpPercap, fill = country)) +
  geom_bar(stat = "Identity") +
  guides(fill=FALSE) +
  theme_get() +
  theme(axis.text.x = element_text(angle = -90, hjust = 0, vjust = 0.3))
```

```
gapminder %>%
  filter(continent == "Asia", year == 2007) %>%
  ggplot(aes(x = country, y = gdpPerCap, fill = country)) +
  geom_bar(stat = "Identity") +
  guides(fill=FALSE) +
  theme_grey() +
  theme(axis.text.x = element_text(angle = -90, hjust = 0, vjust = 0.3))
```

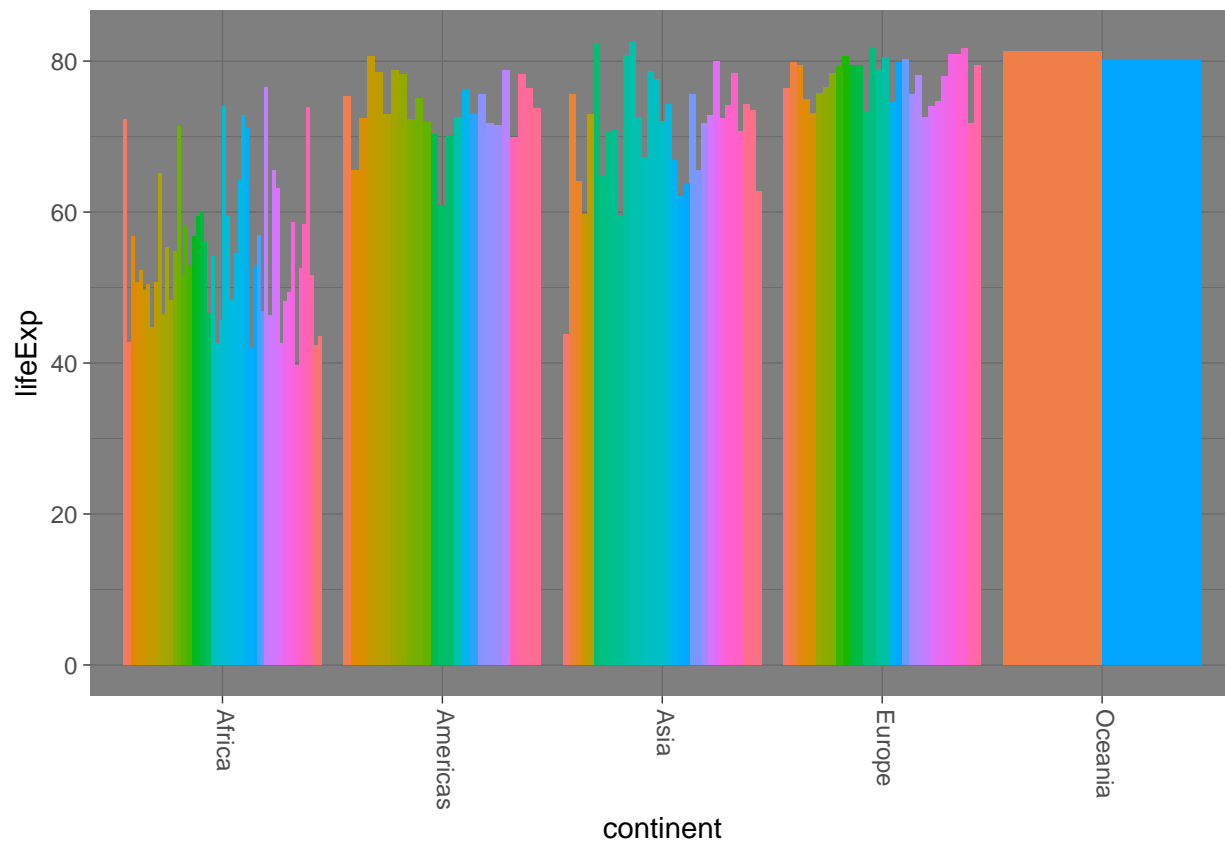


```
library(reshape)
```

```
##
## Attaching package: 'reshape'

## The following object is masked from 'package:dplyr':
##
##   rename

gapminder %>%
  filter( year == 2007) %>%
  ggplot(aes(x = continent, y = lifeExp, fill = country)) +
  geom_bar(stat = "Identity",position=position_dodge()) +
  guides(fill = FALSE) +
  theme_dark() +
  theme(axis.text.x = element_text(angle = -90, hjust = 0, vjust = 0.3))
```



```
library(reshape)
gapminder %>%
  filter(continent == "Europe") %>%
  ggplot(aes(x = year, y = gdpPercap, fill = country)) +
  geom_bar(stat = "Identity", position=position_dodge()) +
  guides(fill = FALSE) +
  theme_bw() +
  theme(axis.text.x = element_text(angle = -90, hjust = 0, vjust = 0.3)) +
  scale_x_continuous(breaks = seq(1952, 2007, by = 5))
```

