Task6

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

6A

```
iris <- iris %>%
  gather("key", "value", 1:4) %>%
  separate(key, c("Part", "dim"))
iris <- iris %>%
  group_by(Part, dim) %>%
  mutate(obs = row_number())
iris_long <- spread(iris, dim, value)
iris_long <- iris_long[,-3]
str(iris_long)
```

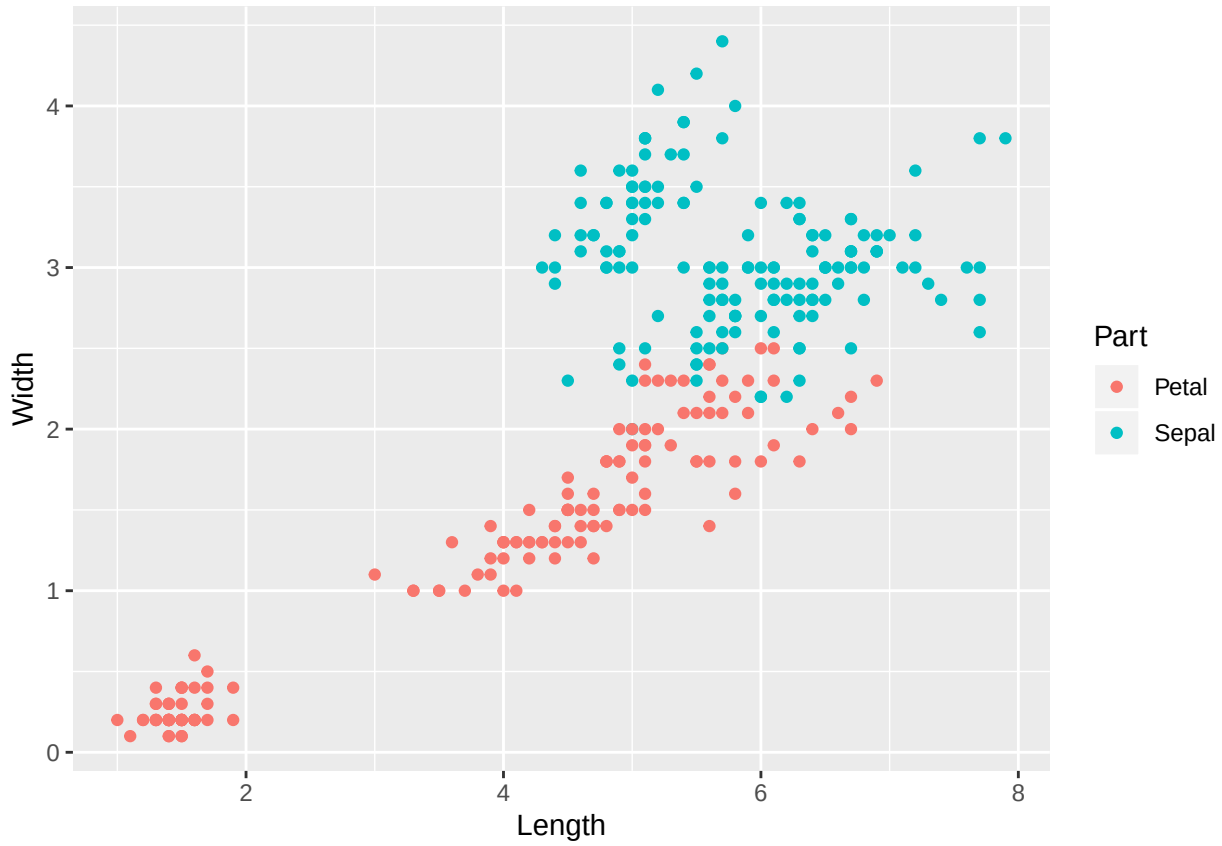
```
## Classes 'grouped_df', 'tbl_df', 'tbl' and 'data.frame':  300 obs. of  4 variables:
##  $ Species: Factor w/ 3 levels "setosa","versicolor",..: 1 1 1 1 1 1 1 1 1 1 ...
##  $ Part   : chr  "Petal" "Petal" "Petal" "Petal" ...
##  $ Length : num  1.4 1.4 1.3 1.5 1.4 1.7 1.4 1.5 1.4 1.5 ...
##  $ Width  : num  0.2 0.2 0.2 0.2 0.2 0.4 0.3 0.2 0.2 0.1 ...
##  - attr(*, "groups")=Classes 'tbl_df', 'tbl' and 'data.frame':   2 obs. of  2 variables:
##   ..$ Part : chr  "Petal" "Sepal"
##   ..$ .rows:List of 2
##   .. ..$ : int  1 2 3 4 5 6 7 8 9 10 ...
##   .. ..$ : int  51 52 53 54 55 56 57 58 59 60 ...
##   ..- attr(*, ".drop")= logi FALSE
```

```
head(iris_long)
```

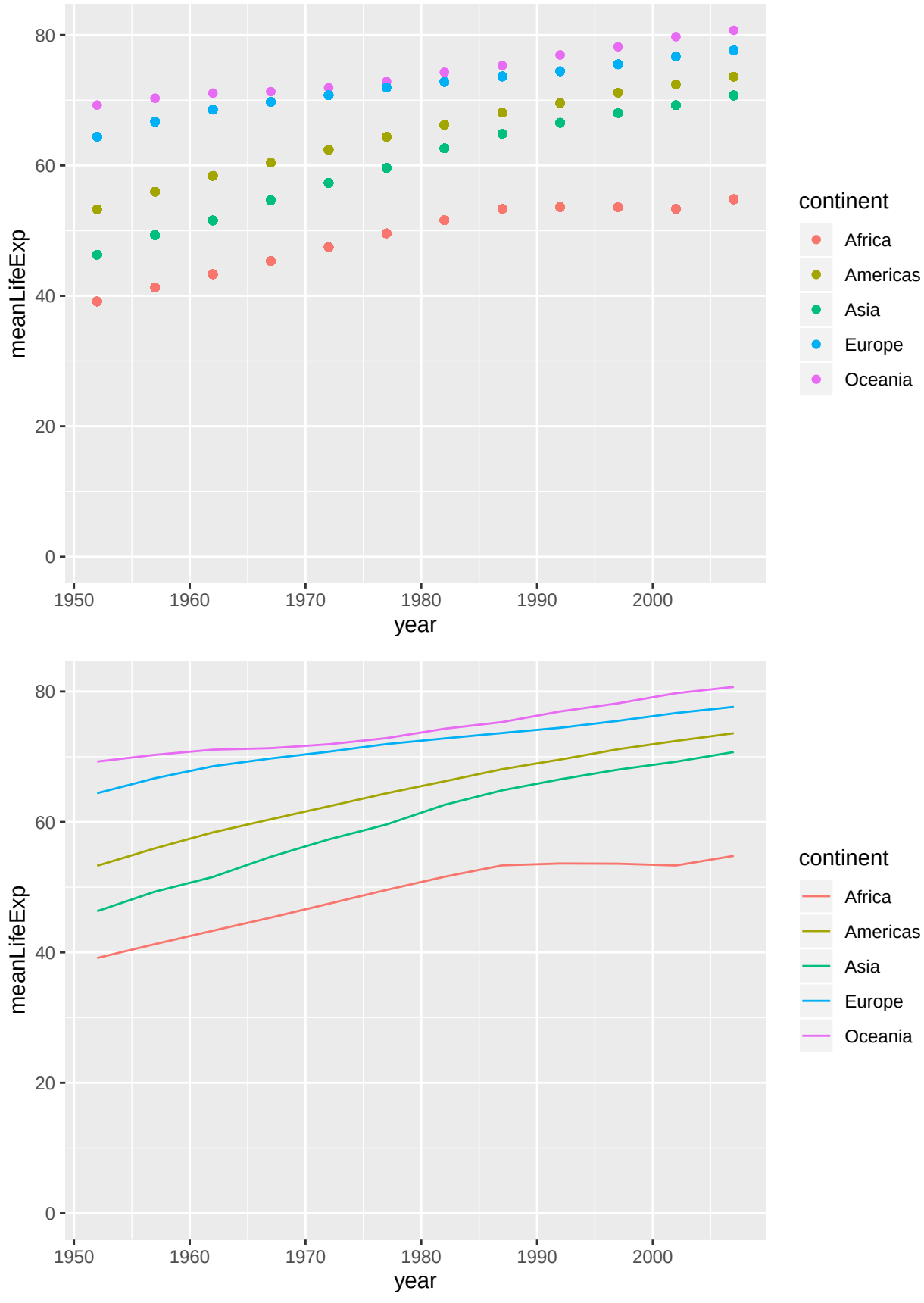
```
## # A tibble: 6 x 4
## # Groups:   Part [1]
##   Species Part  Length Width
##   <fct>   <chr>  <dbl> <dbl>
## 1 setosa  Petal    1.4   0.2
## 2 setosa  Petal    1.4   0.2
## 3 setosa  Petal    1.3   0.2
```

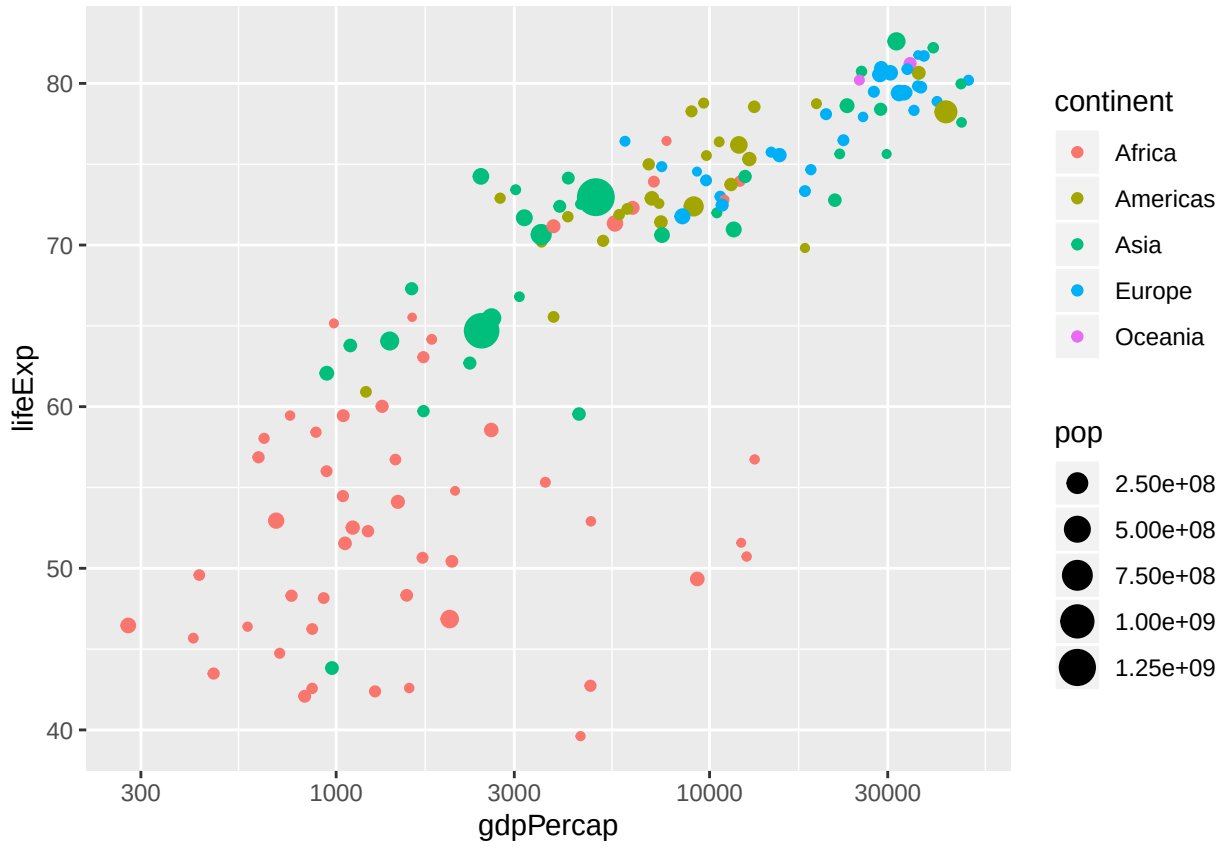
```
## 4 setosa  Petal    1.5   0.2
## 5 setosa  Petal    1.4   0.2
## 6 setosa  Petal    1.7   0.4
```

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



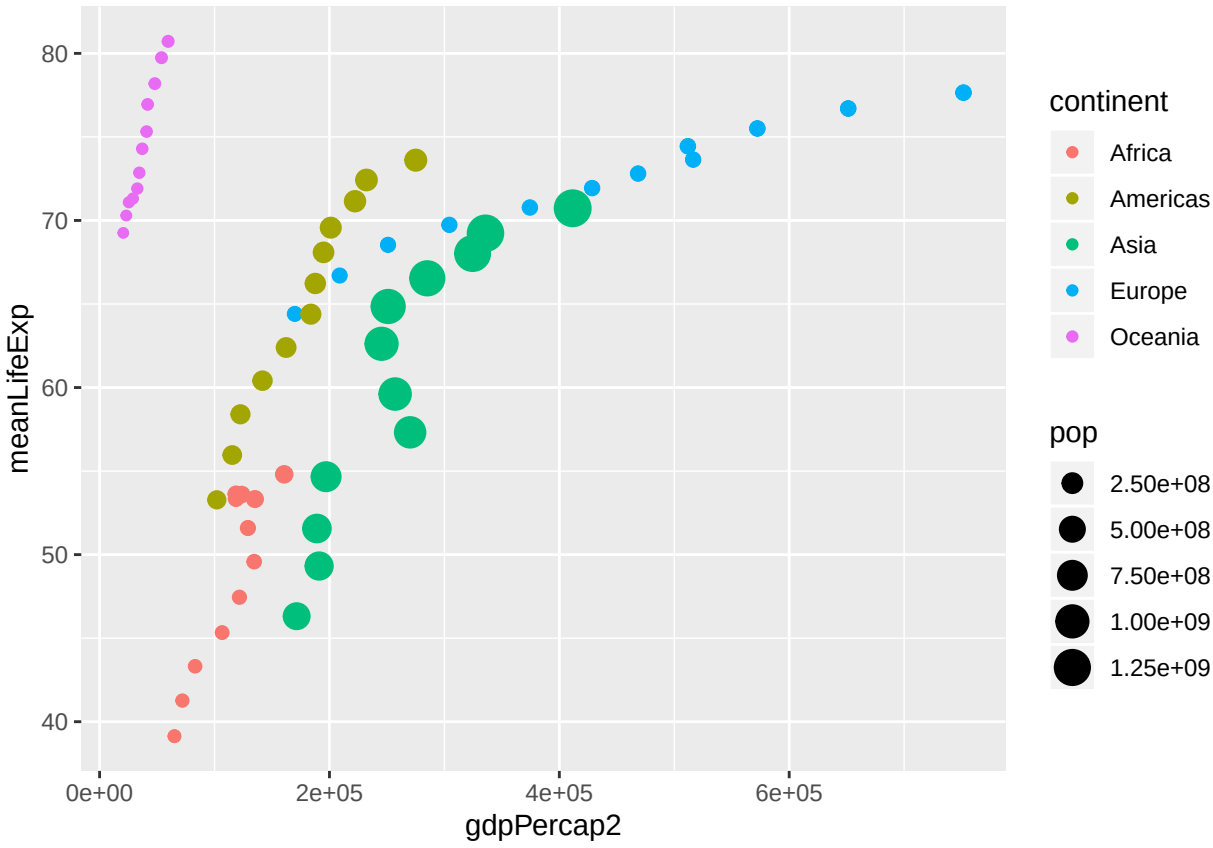
6B


meanLifeExp
year
continent
Africa
Americas
Asia
Europe
Oceania
0
20
40
60
80
1950
1960
1970
1980
1990
2000

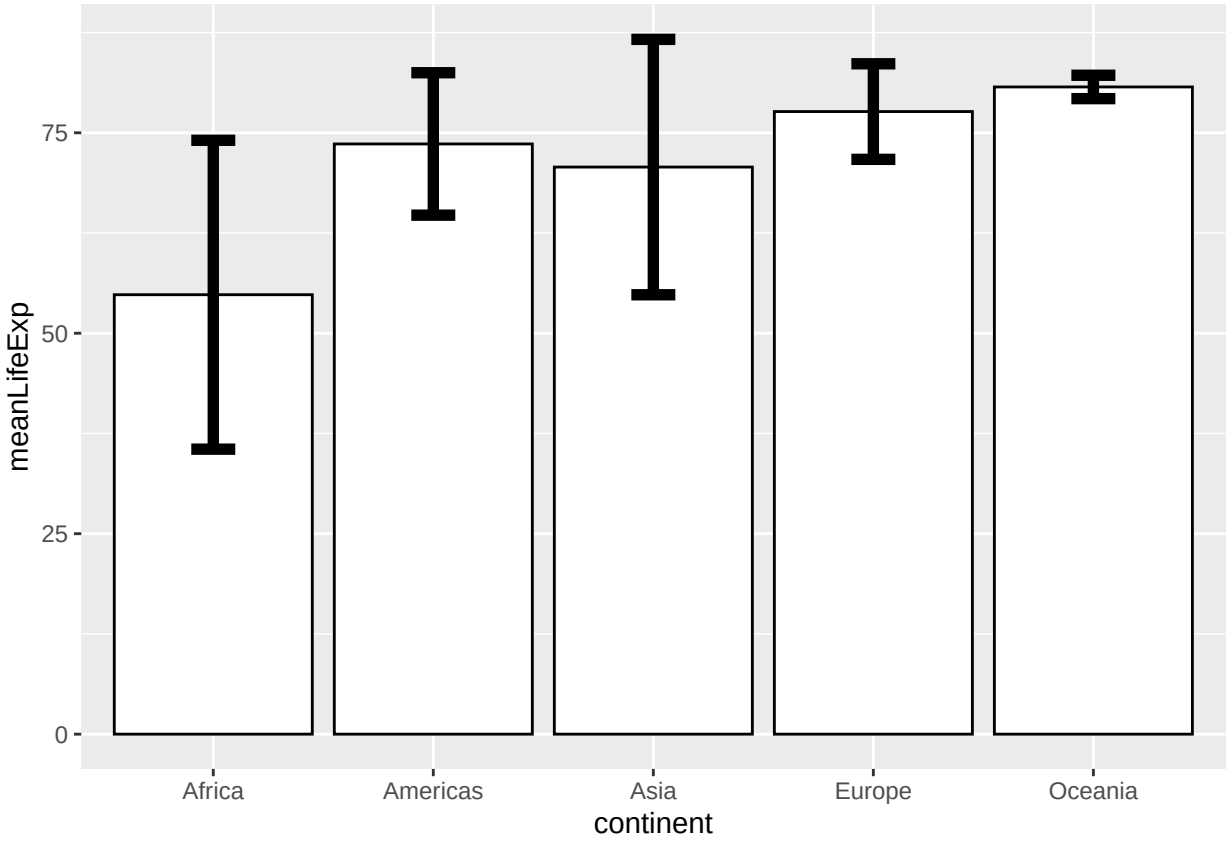


6B My graphs

```
ggplot(gap, aes(x = gdpPercap2, y = meanLifeExp, color = continent, size = pop))+geom_point()
```




```
gap2 <- ungroup(gap2)
gap2 <- gap2%>%select(continent, meanLifeExp, lower, upper)
gap2 <- unique(gap2)
ggplot(gap2, aes(x = continent, y = meanLifeExp, ymin = lower, ymax = upper))+
  geom_bar(stat = "identity", fill = "white", color = "black")+
  geom_errorbar(width = 0.2, size = 2)
```


75
50
25
0
meanLifeExp
Africa
Americas
Asia
Europe
Oceania
continent