Line plots

INTRODUCTION TO THE TIDYVERSE

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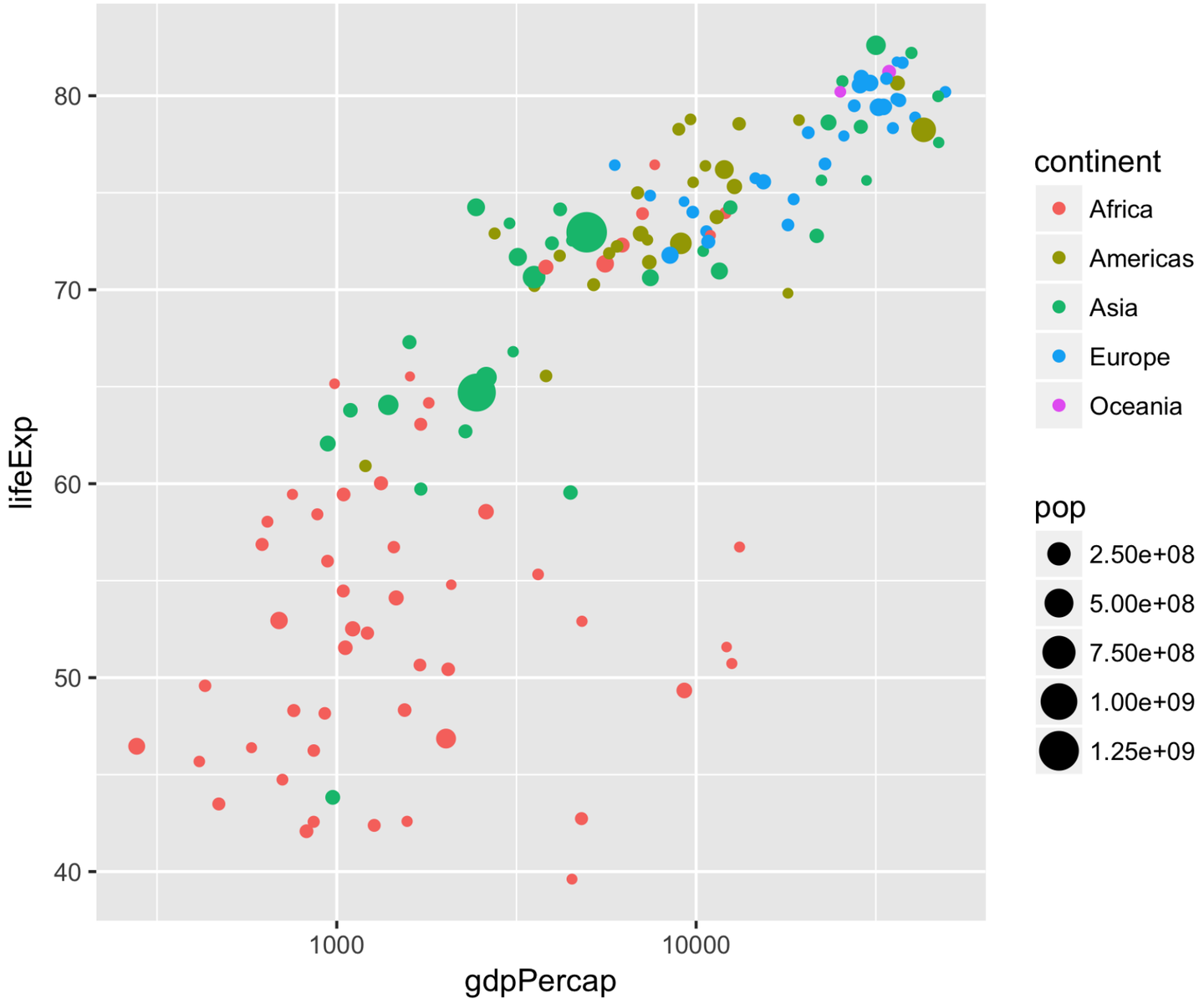
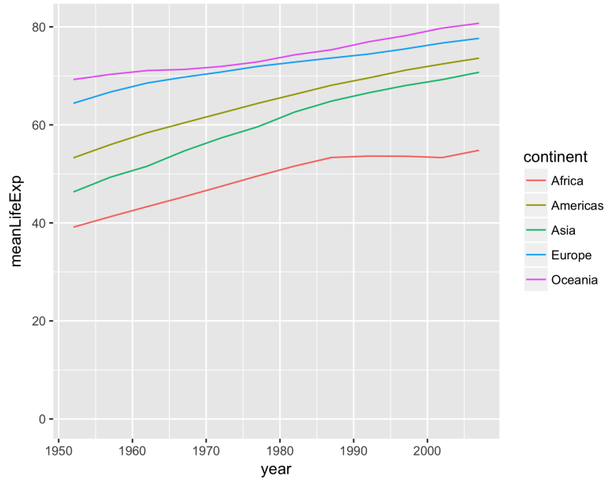
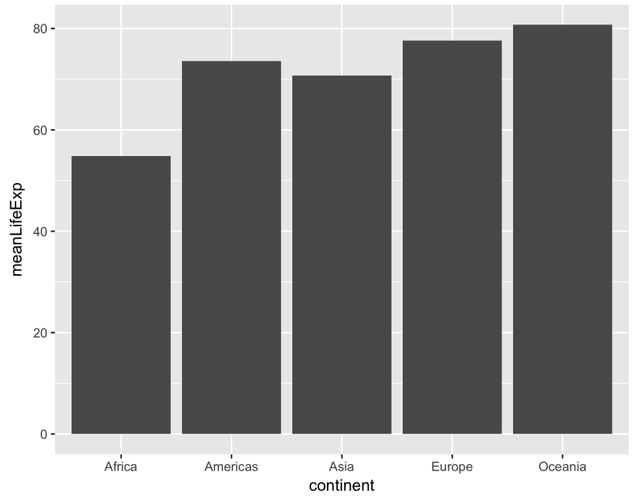

80
70
60
50
40
lifeExp
1000
10000
gdpPercap
continent
Africa
Americas
Asia
Europe
Oceania
pop
2.50e+08
5.00e+08
7.50e+08
1.00e+09
1.25e+09

Types of plots

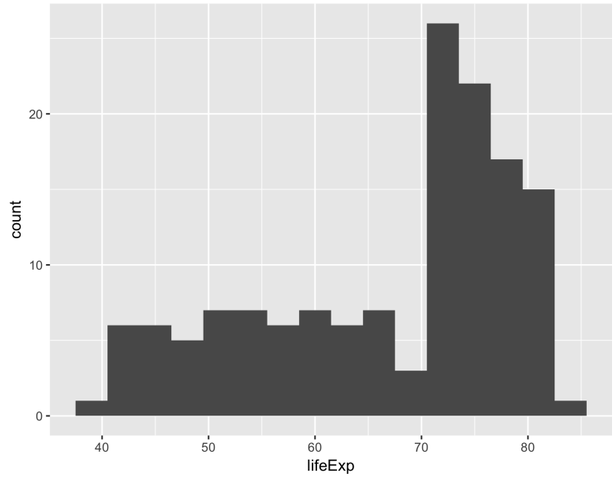
Line plot



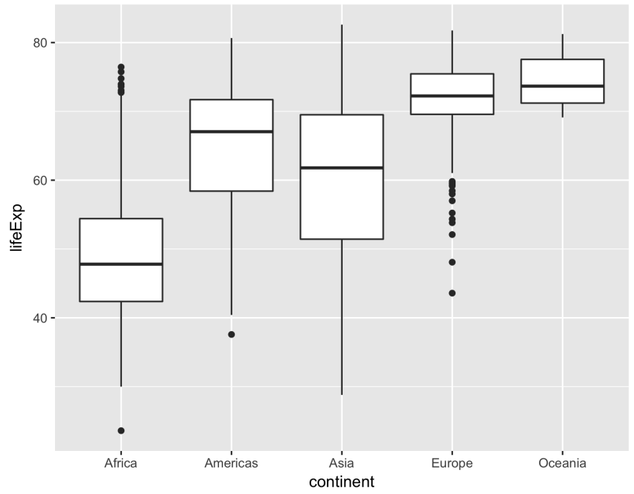
Bar plot



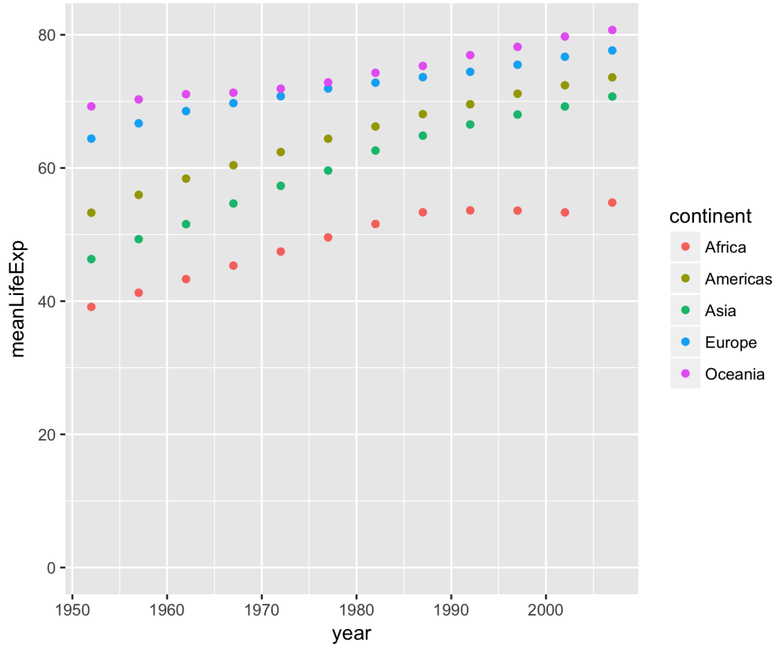
Histogram



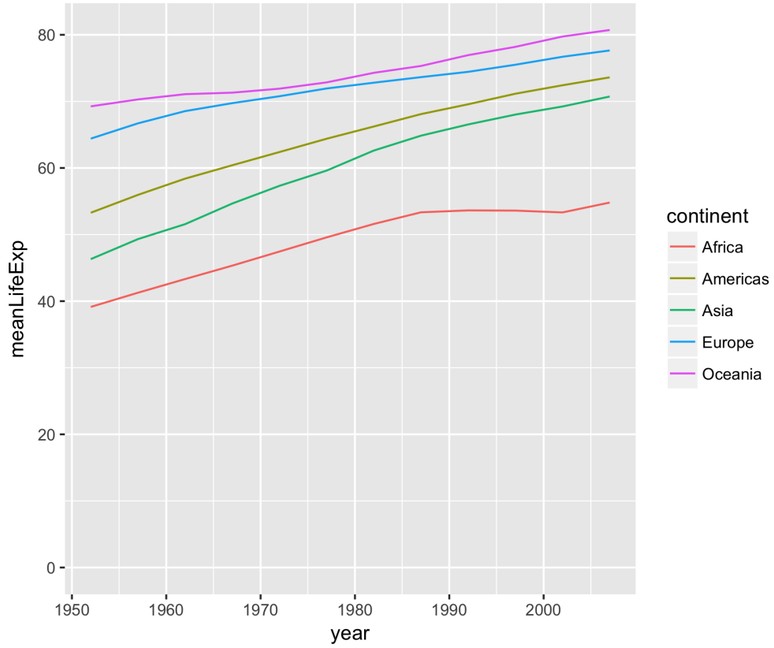
Box plot



Scatter vs line plot

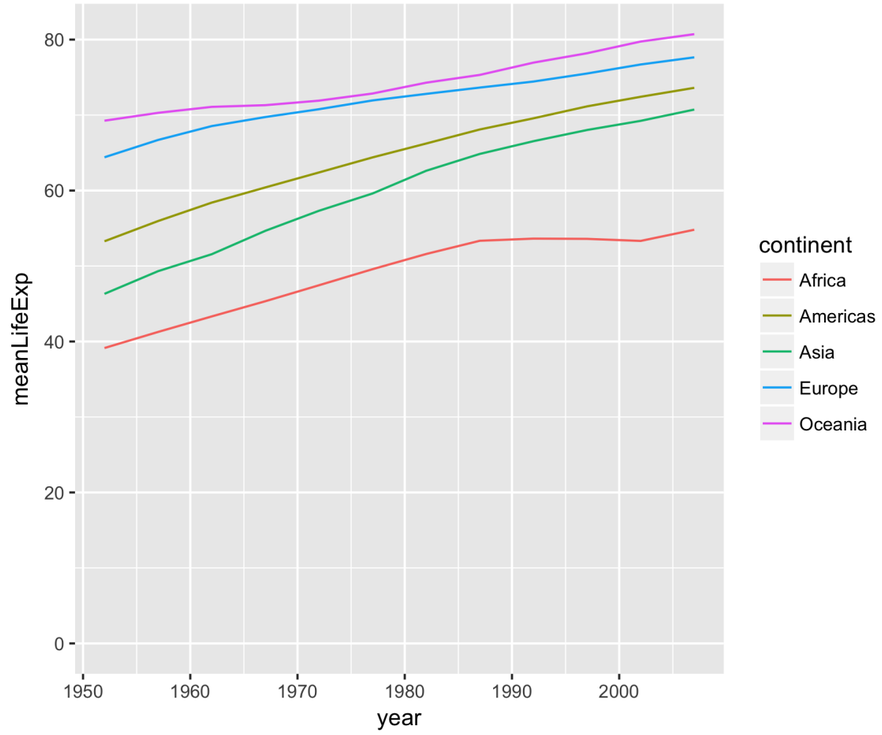


`geom_point()`



`geom_line()`

Line plot




```
ggplot(year_continent, aes(x = year, y = meanLifeExp, color = continent)) +
  geom_line() +
  expand_limits(y = 0)
```

Let's practice!

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Bar plots

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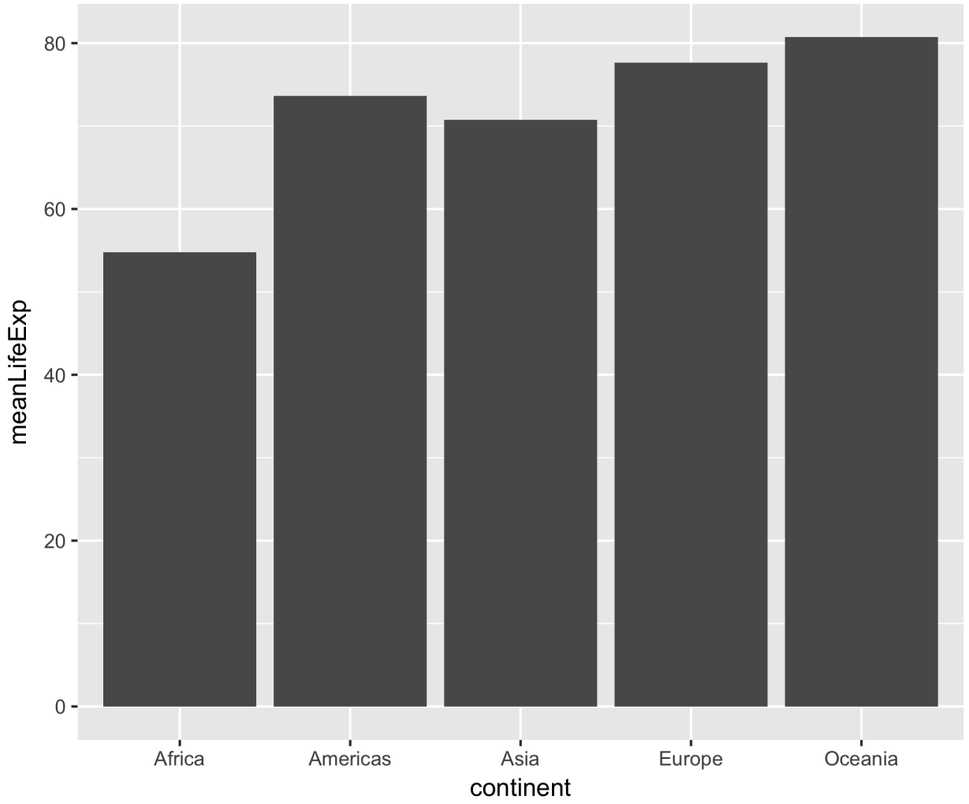
Summarizing by continent

```
by_continent <- gapminder %>%
  filter(year == 2007) %>%
  group_by(continent) %>%
  summarize(meanLifeExp = mean(lifeExp))

by_continent
```

```
# A tibble: 5 x 2
  continent meanLifeExp
      <fct>       <dbl>
1    Africa    54.80604
2  Americas    73.60812
3      Asia    70.72848
4    Europe    77.64860
5   Oceania    80.71950
```

Bar plot




```
ggplot(by_continent, aes(x = continent, y = meanLifeExp)) +
  geom_col()
```

Let's practice!

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Histograms

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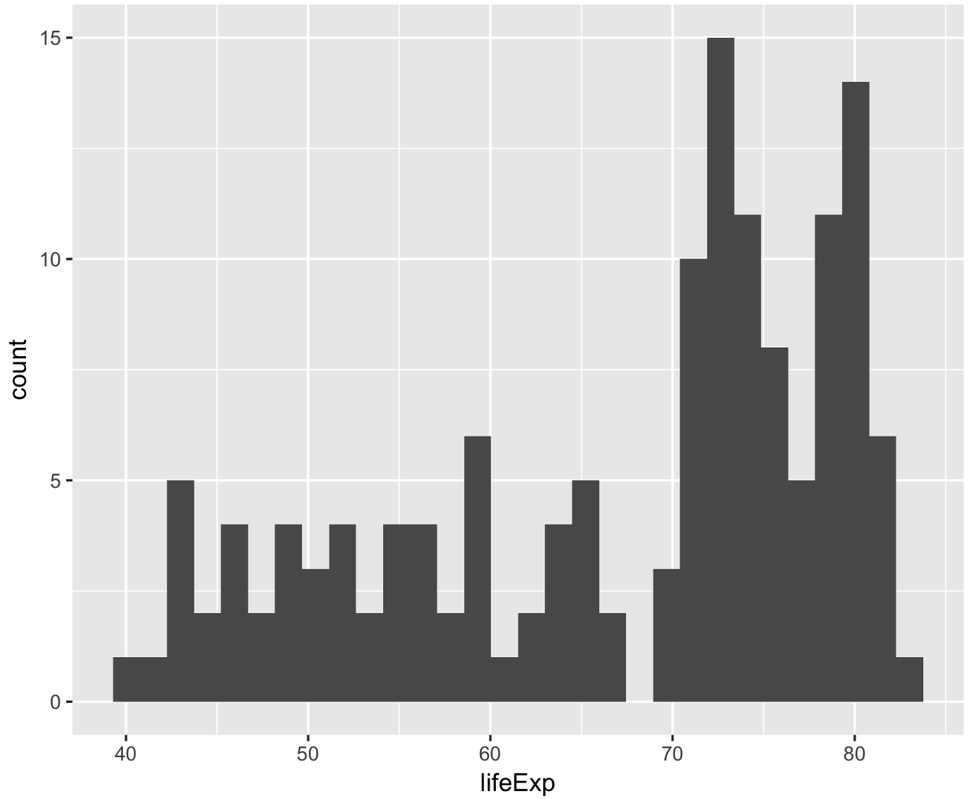
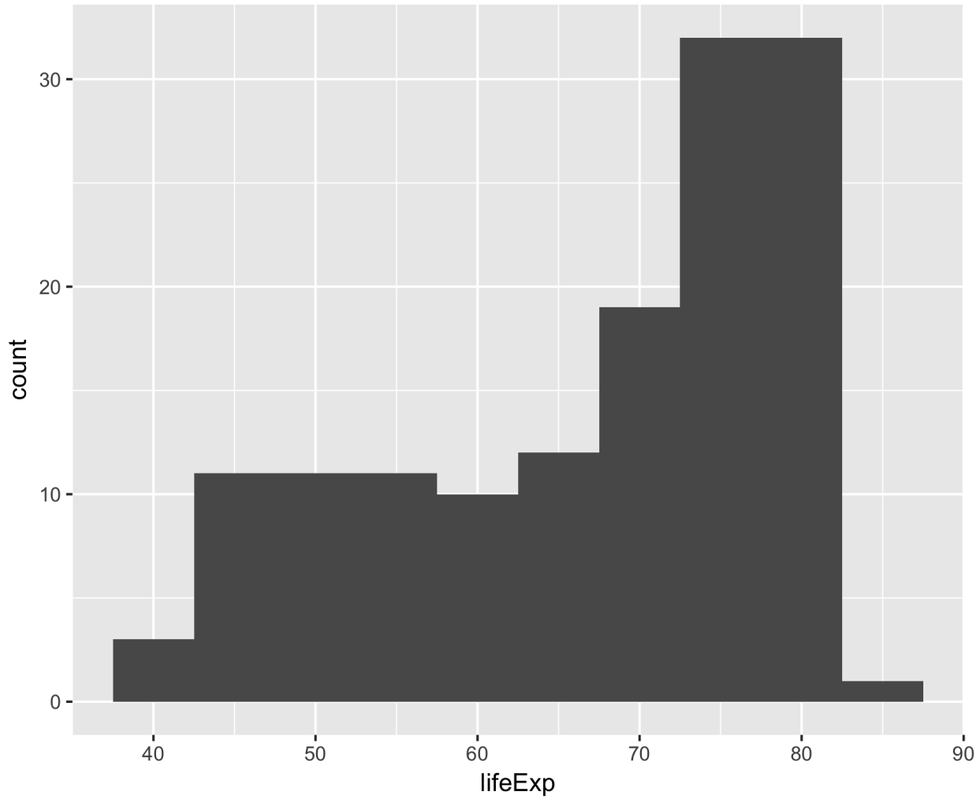
Histogram




```
ggplot(gapminder_2007, aes(x = lifeExp)) +
  geom_histogram()
```

Adjusting bin width




```
ggplot(gapminder_2007, aes(x = lifeExp)) +
  geom_histogram(binwidth = 5)
```

Log x-axis

```
scale_x_log10()
```

Let's practice!

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Box plots

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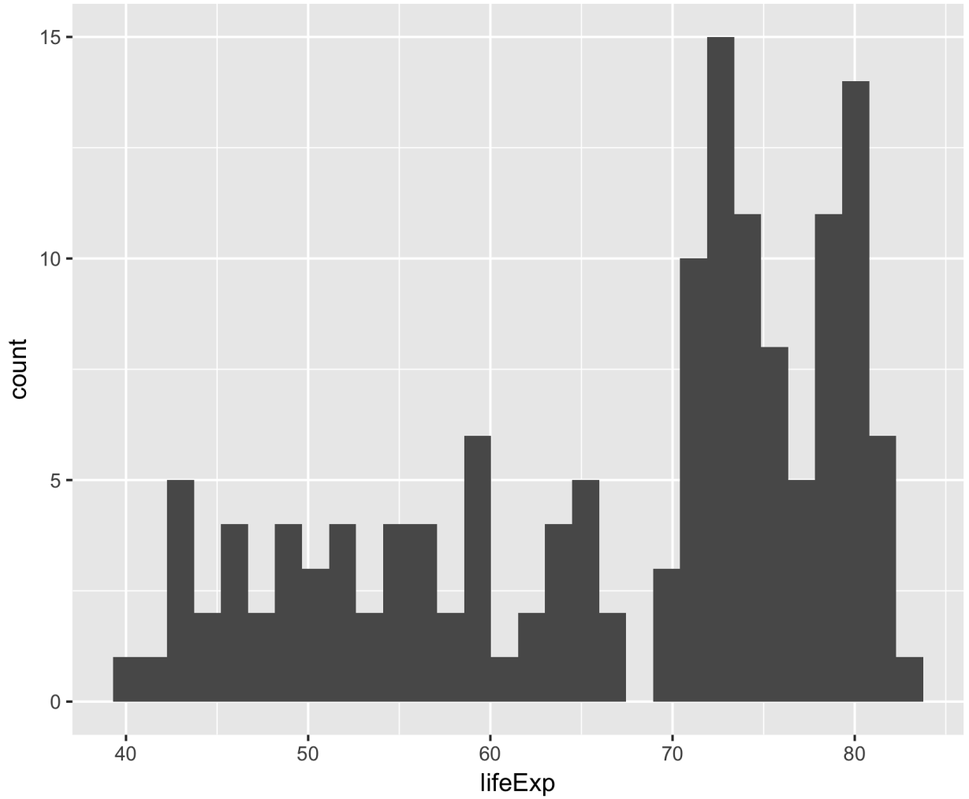
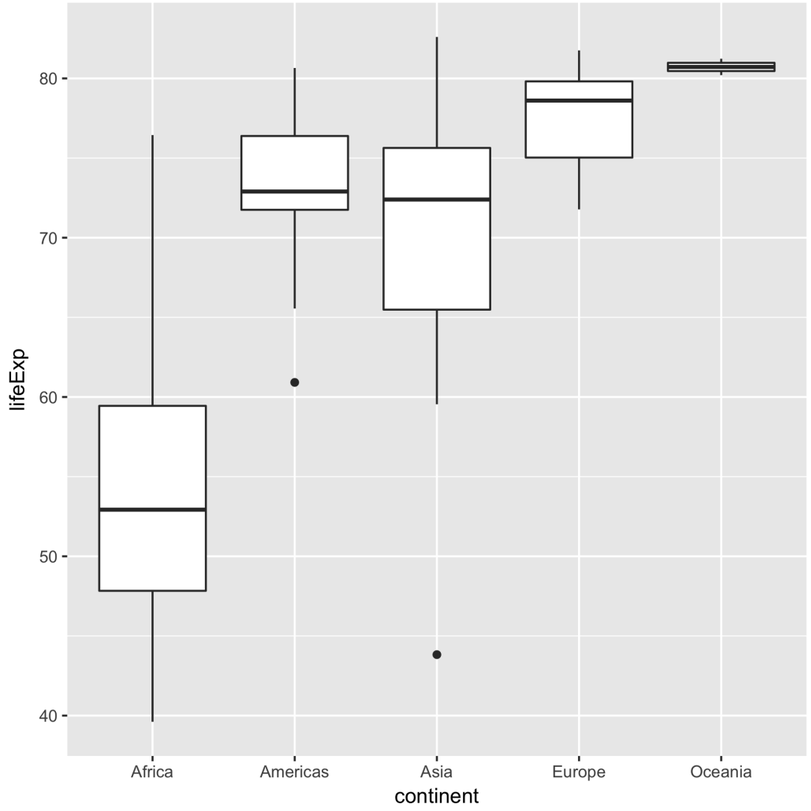
Histograms



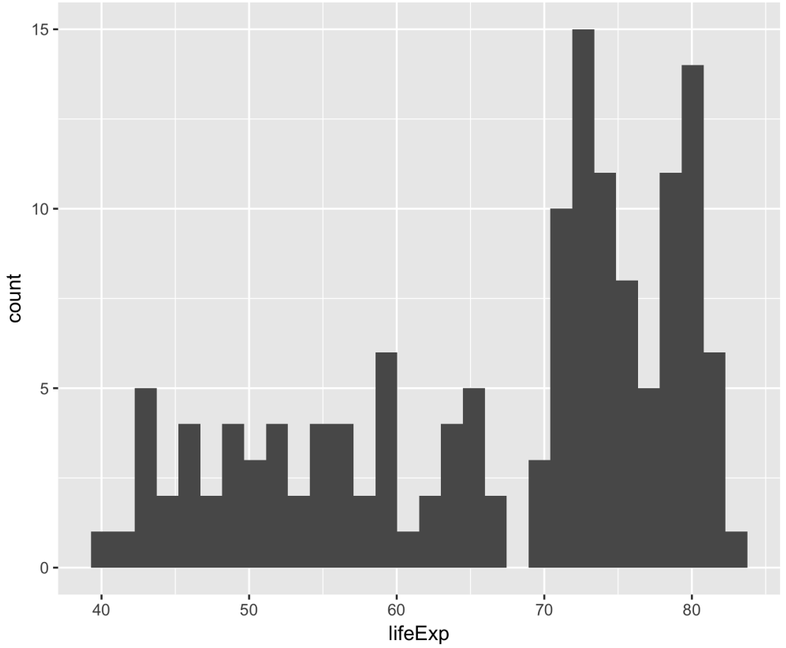

```
ggplot(gapminder_2007, aes(x = lifeExp)) +
  geom_histogram()
```

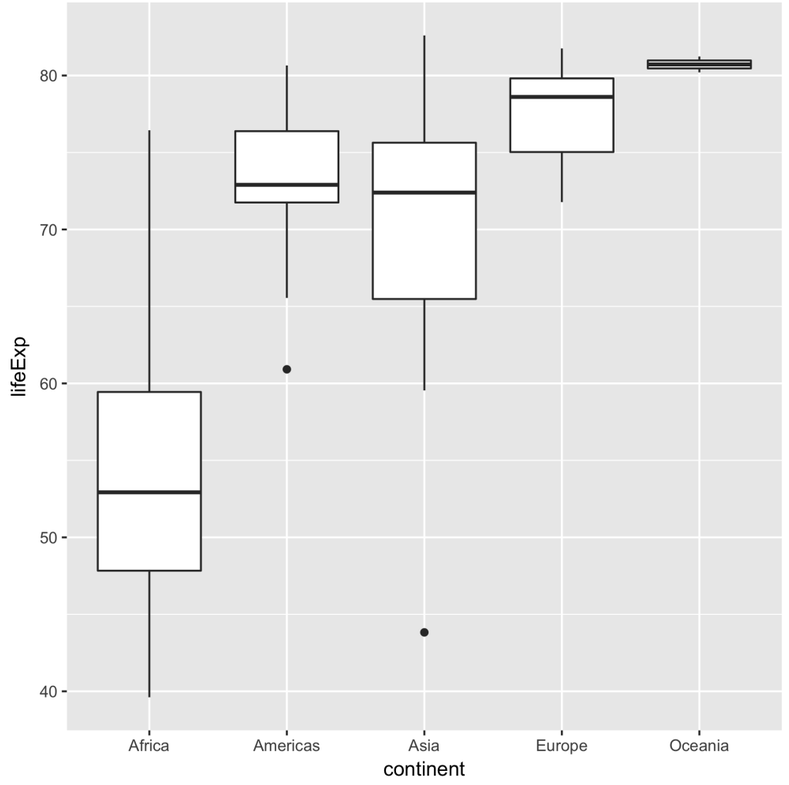
Box plots




```
ggplot(gapminder_2007, aes(x = continent, y = lifeExp)) +
  geom_boxplot()
```

Histogram vs box plot





Let's practice!

INTRODUCTION TO THE TIDYVERSE

Conclusion

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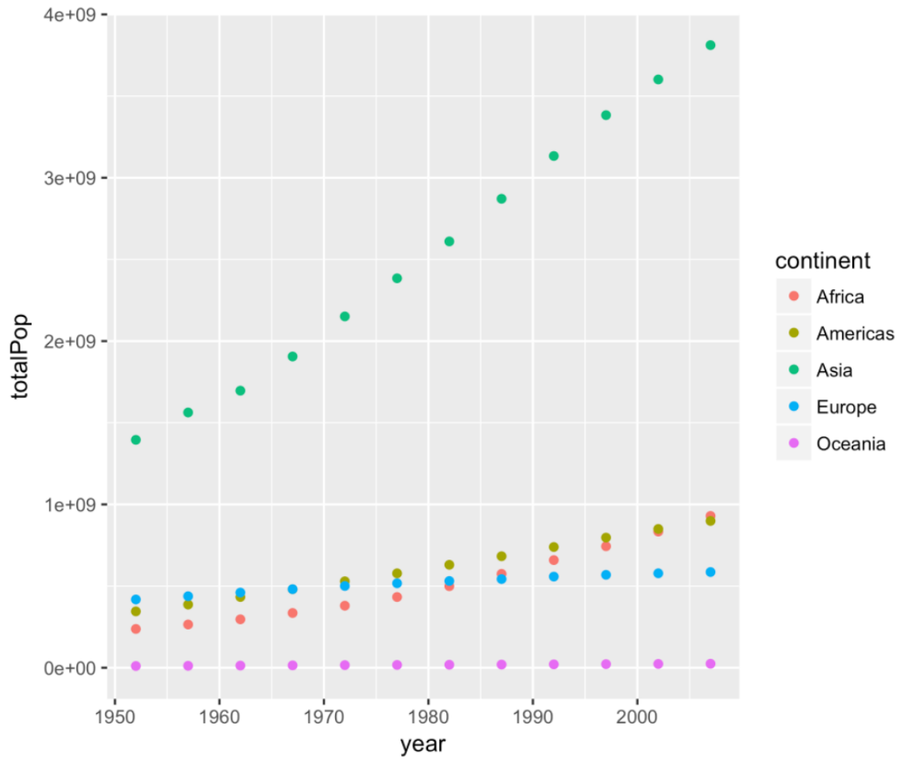
Transforming and visualizing data with R

```
ggplot(by_year_continent, aes(x = year, y = totalPop, color = continent)) +
    geom_point() +
    expand_limits(y = 0)
```



Next steps: Data visualization

- Data Visualization: **Data visualization with `ggplot2`**
- Data Manipulation: **Data manipulation with `dplyr`**
- Importing and Cleaning: **Importing and cleaning data**
- Practice! **Exploratory Data Analysis in R: Case Study**

Enjoy your data science journey!

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