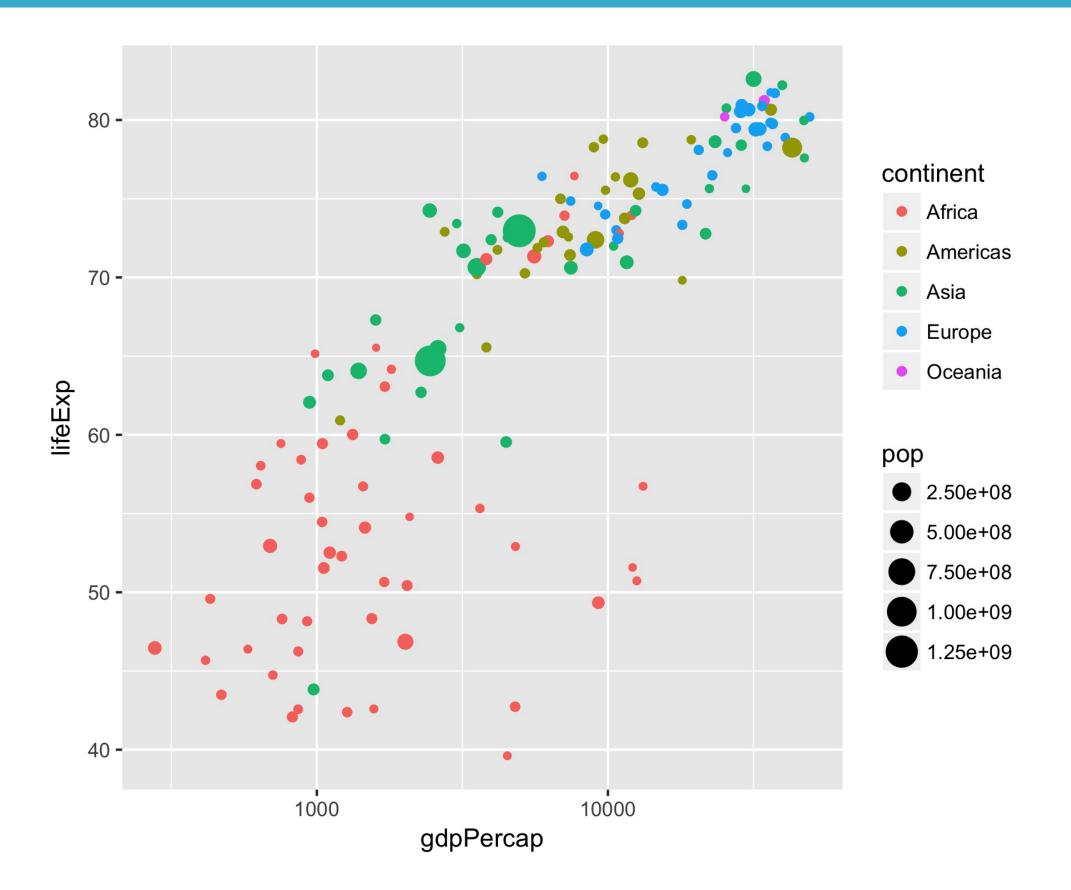




Visualizing with ggplot2



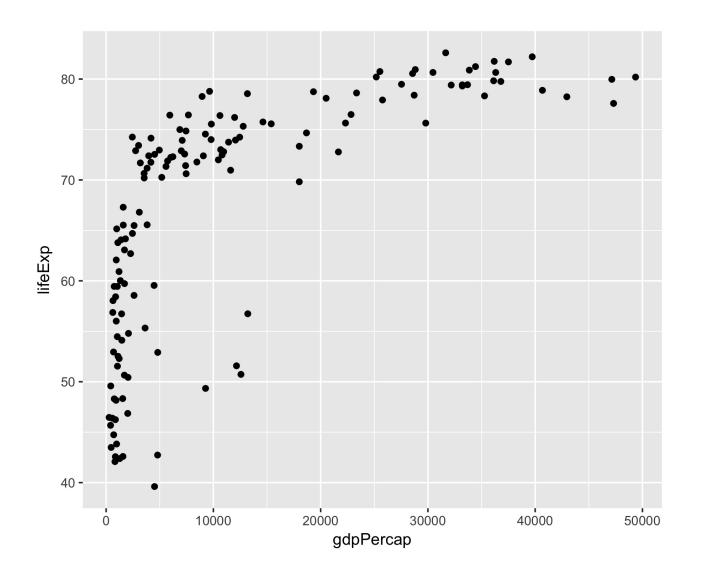




Variable Assignment

```
gapminder 2007 <- gapminder %>%
  filter(year == 2007)
gapminder 2007
# A tibble: 142 x 6
       country continent year lifeExp
                                                   gdpPercap
                                              pop
                  <fctr> <int>
                                  <dbl>
        <fctr>
                                                       <dbl>
                                            <int>
  Afghanistan
                          2007
                                                    974.5803
                                 43.828
                                         31889923
                    Asia
                                76.423
                                          3600523
       Albania
                  Europe
                           2007
                                                   5937.0295
                                 72.301
       Algeria
                Africa
                          2007
                                         33333216
                                                   6223.3675
                  Africa
                                 42.731
                                         12420476
                                                   4797.2313
        Angola
                          2007
     Argentina
                Americas
                                 75.320
                                         40301927 12779.3796
                           2007
                                 81.235
                                         20434176 34435.3674
     Australia
                 Oceania
                           2007
                                79.829
                                          8199783 36126.4927
                          2007
       Austria
                  Europe
 8
                                 75.635
                                           708573 29796.0483
       Bahrain
                    Asia
                           2007
 9
    Bangladesh
                                 64.062 150448339
                    Asia
                           2007
                                                   1391.2538
10
       Belgium
                                         10392226 33692.6051
                  Europe
                          2007
                                 79.441
# ... with 132 more rows
```

Visualizing with ggplot2



```
library(ggplot2)
ggplot(gapminder_2007, aes(x = gdpPerCap, y = lifeExp)) +
   geom_point()
```



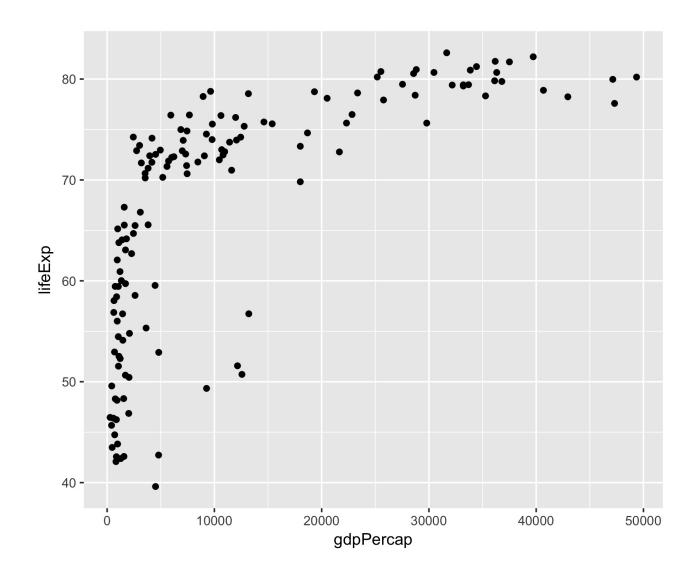






Log scales

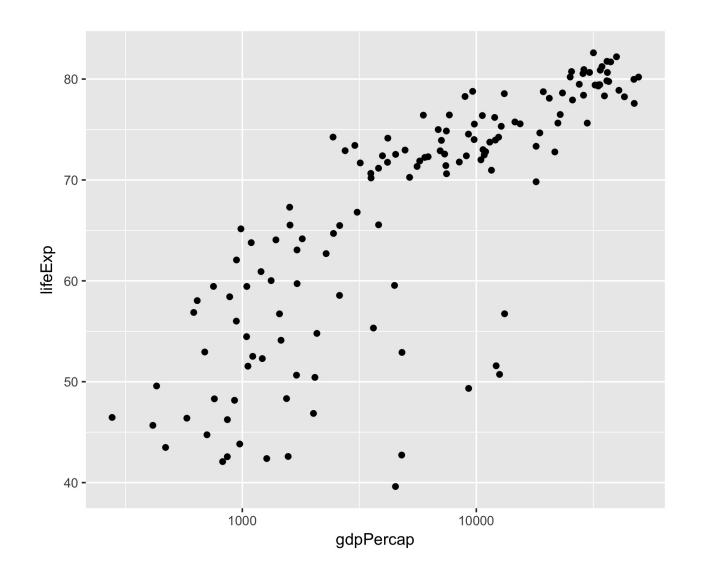
Scatter plot



```
library(ggplot2)

ggplot(gapminder, aes(x = gdpPerCap, y = lifeExp)) +
   geom_point()
```

Log scale



```
ggplot(gapminder_2007, aes(x = gdpPercap, y = lifeExp)) +
  geom_point() +
  scale_x_log10()
```



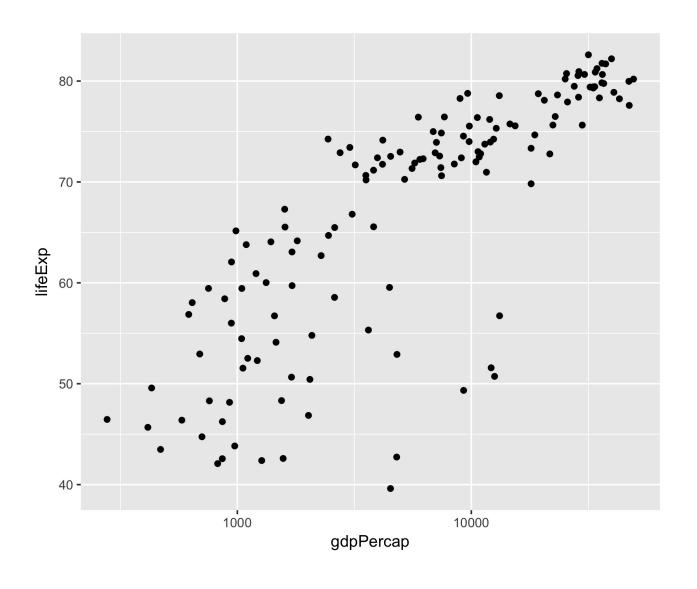






Additional aesthetics

Scatter plots



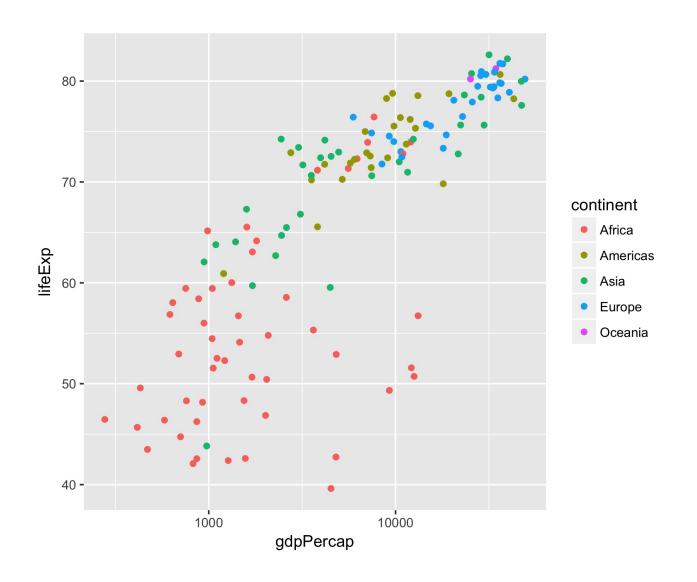


Additional variables

```
gapminder 2007
# A tibble: 142 x 6
       country continent year lifeExp
                                                    gdpPercap
                                              pop
                                  <dbl>
                                            <dbl>
                                                        <dbl>
        <fctr>
                  <fctr> <int>
  Afghanistan
                           2007
                                 43.828
                                         31889923
                    Asia
                                                     974.5803
                           2007
                                 76.423
                                          3600523
                                                    5937.0295
                  Europe
       Albania
                                 72.301
       Algeria
                Africa
                          2007
                                         33333216
                                                    6223.3675
                                                    4797.2313
        Angola
                  Africa
                                 42.731
                                         12420476
                           2007
     Argentina
                                 75.320
                                         40301927 12779.3796
                Americas
                           2007
                                 81.235
                                         20434176 34435.3674
     Australia
                 Oceania
                           2007
                           2007
       Austria
                  Europe
                                 79.829
                                          8199783 36126.4927
 8
                                           708573 29796.0483
       Bahrain
                    Asia
                           2007
                                 75.635
 9
    Bangladesh
                                 64.062 150448339
                    Asia
                           2007
                                                   1391.2538
10
       Belgium
                           2007
                                 79.441
                                         10392226 33692.6051
                  Europe
# ... with 132 more rows
```

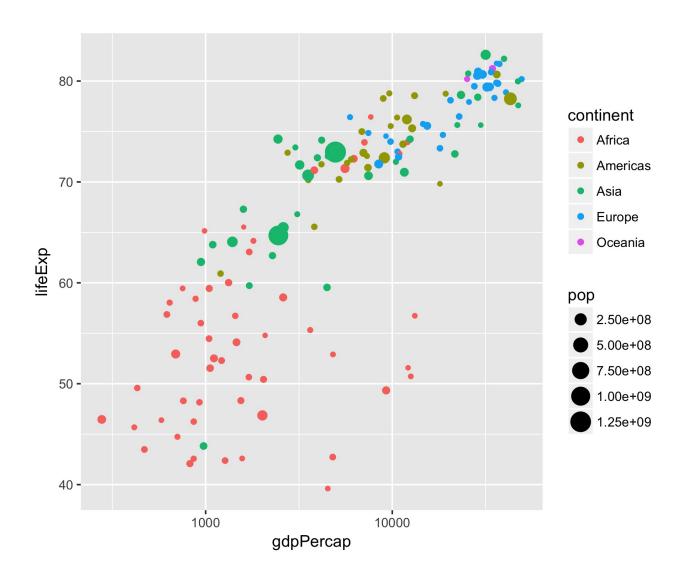


The color aesthetic



```
ggplot(gapminder_2007, aes(x = gdpPercap, y = lifeExp, color = continent)) +
   geom_point() +
   scale_x_log10()
```

The size aesthestic





Aesthetics

Aesthetic	Variable
X	gdpPerCap
У	lifeExp
color	continent
size	pop

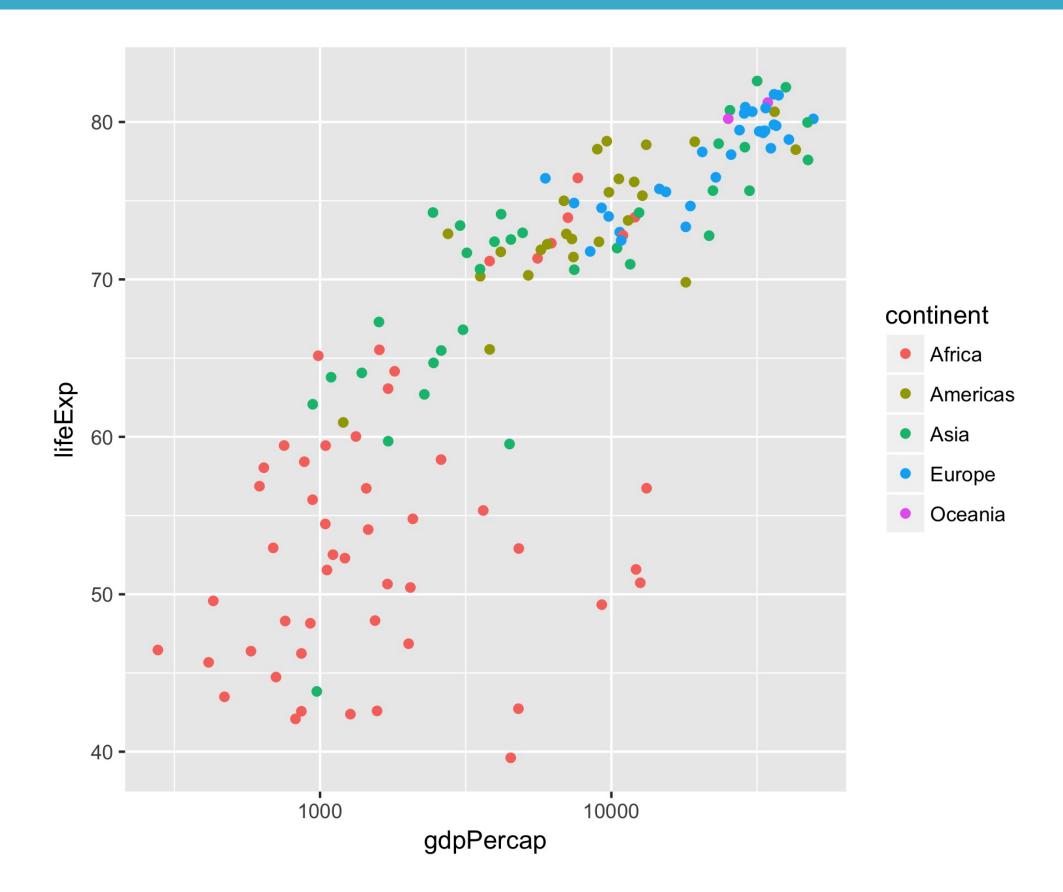




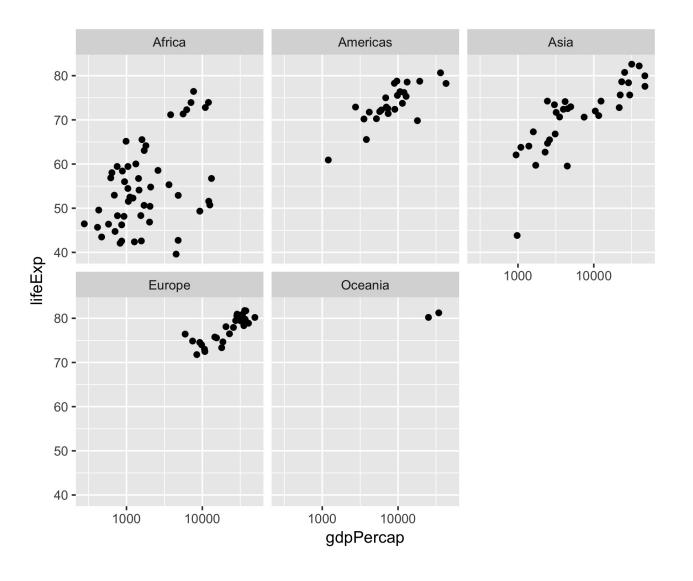




Faceting



Faceting



```
ggplot(gapminder_2007, aes(x = gdpPercap, y = lifeExp)) +
   geom_point() +
   scale_x_log10() +
   facet_wrap(~ continent)
```







