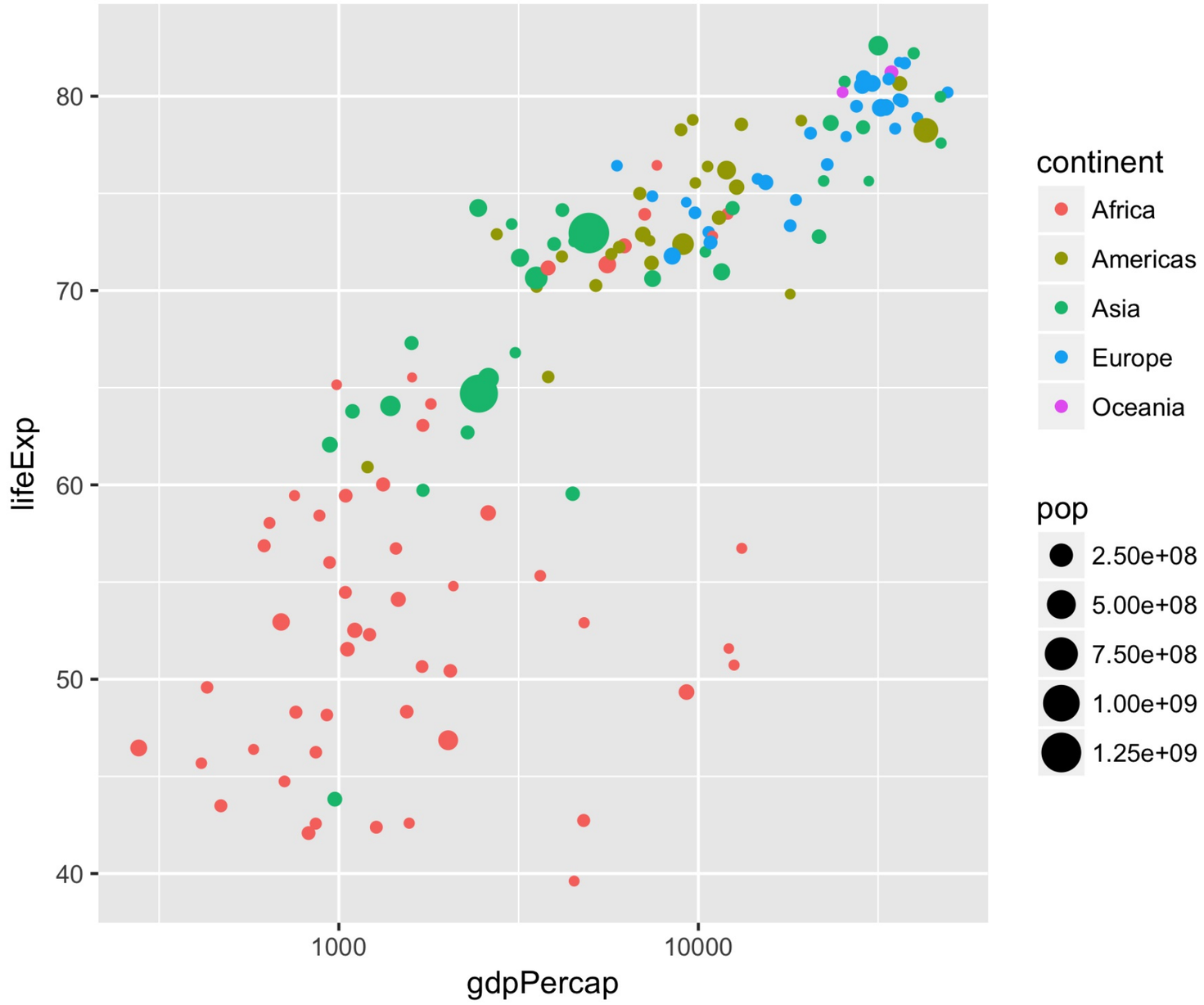
INTRODUCTION TO THE TIDYVERSE

Visualizing with ggplot2

David Robinson
Chief Data Scientist, DataCamp


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

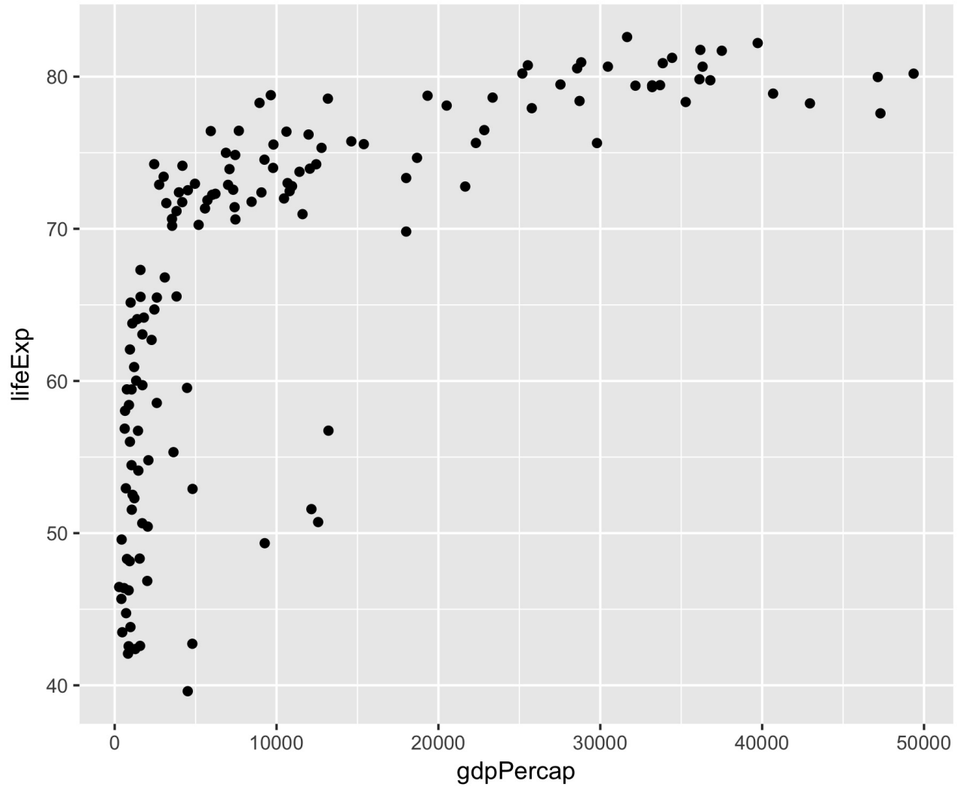
Variable Assignment

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

gapminder_2007
```

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

Visualizing with ggplot2




```
library(ggplot2)
```

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

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Let's practice!

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Log scales

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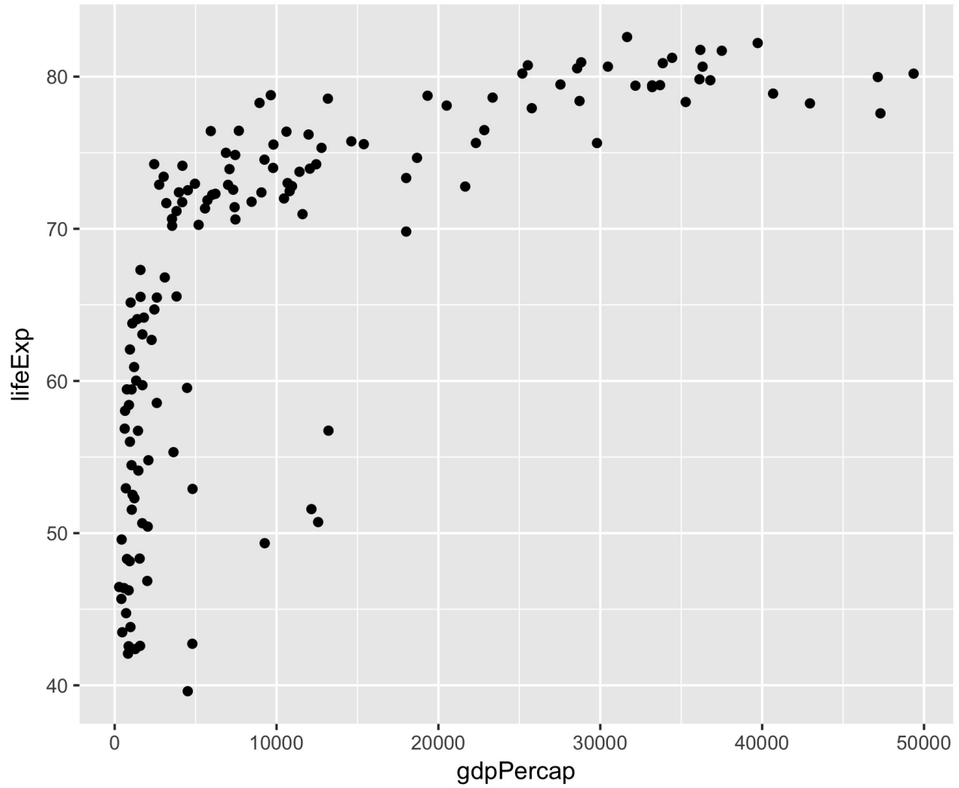
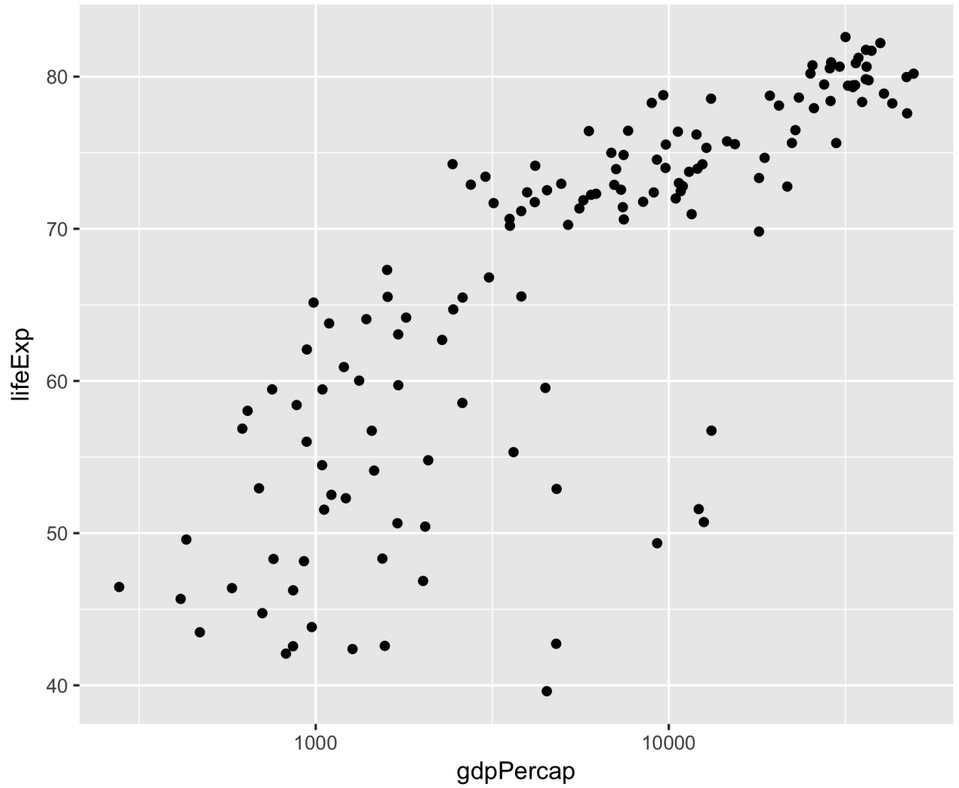
Scatter plot




```
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()
```

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Additional aesthetics

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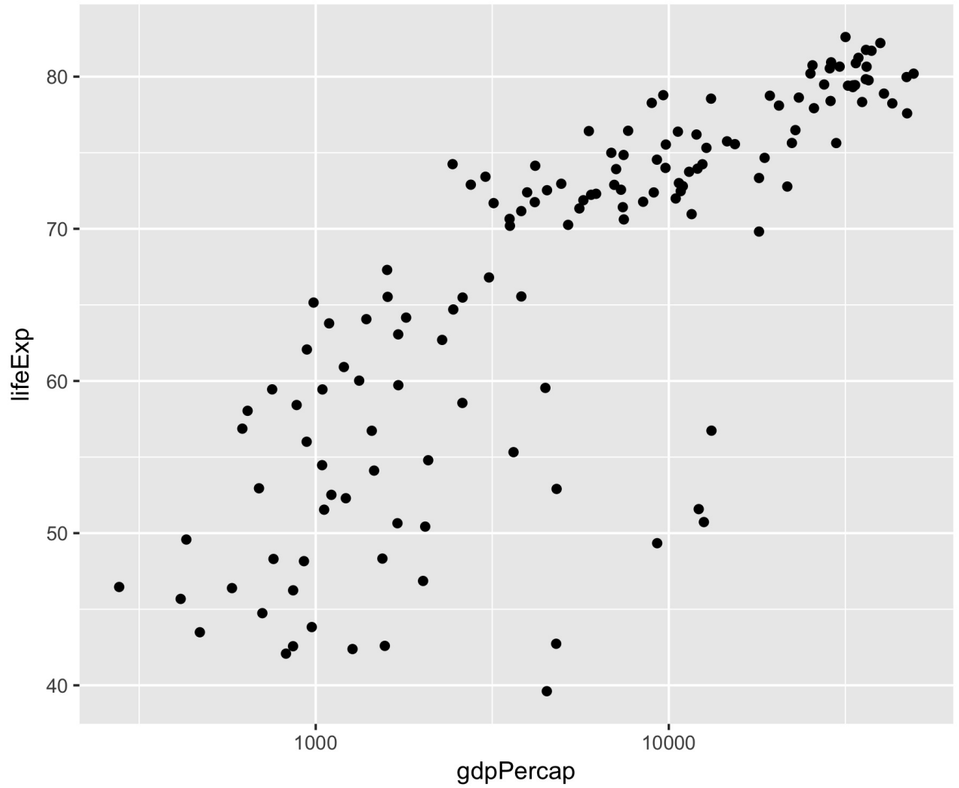
Scatter plots



Additional variables

```
gapminder_2007
```

```
# A tibble: 142 x 6
       country continent  year lifeExp       pop  gdpPercap
        <fctr>    <fctr> <int>   <dbl>     <dbl>      <dbl>
 1 Afghanistan      Asia  2007  43.828  31889923   974.5803
 2     Albania    Europe  2007  76.423   3600523  5937.0295
 3     Algeria    Africa  2007  72.301  33333216  6223.3675
 4      Angola    Africa  2007  42.731  12420476  4797.2313
 5   Argentina  Americas  2007  75.320  40301927 12779.3796
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 9  Bangladesh      Asia  2007  64.062 150448339  1391.2538
10     Belgium    Europe  2007  79.441  10392226 33692.6051
# ... with 132 more rows
```
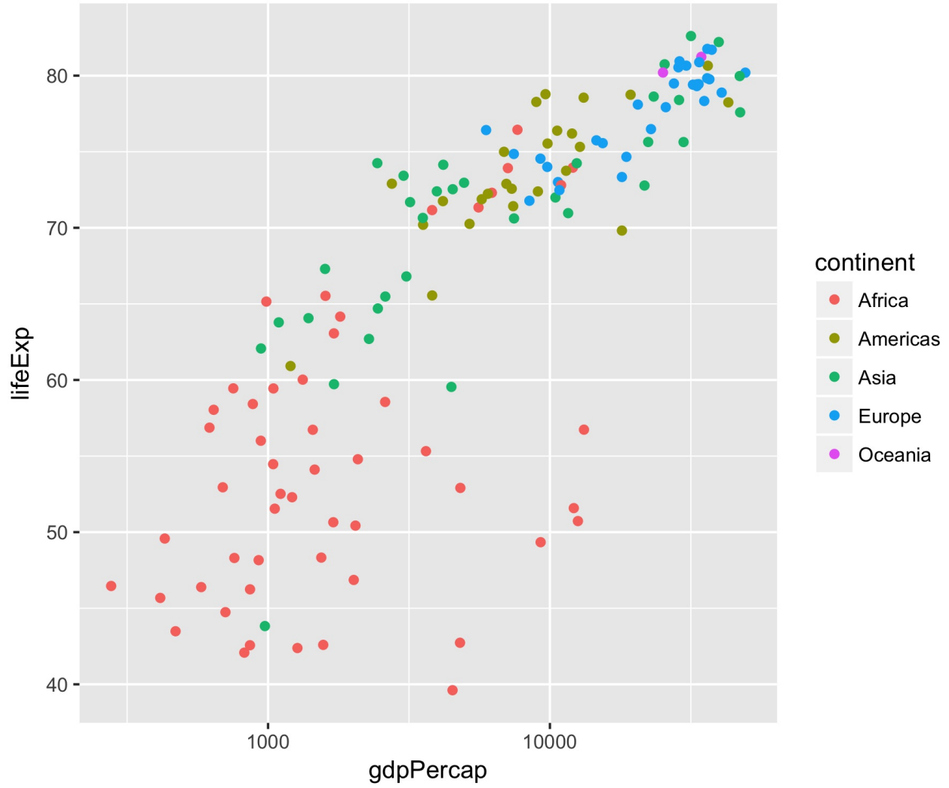
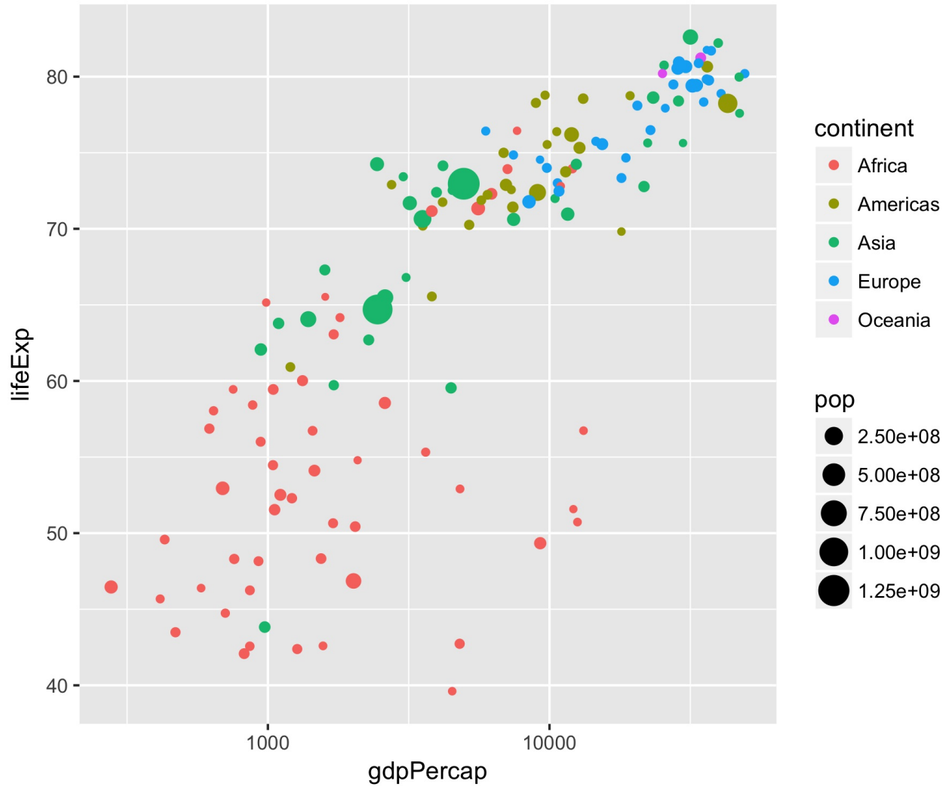

The color aesthetic




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

The size aesthetic




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

Aesthetics

Aesthetic	Variable
x	gdpPerCap
y	lifeExp
color	continent
size	pop

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Faceting

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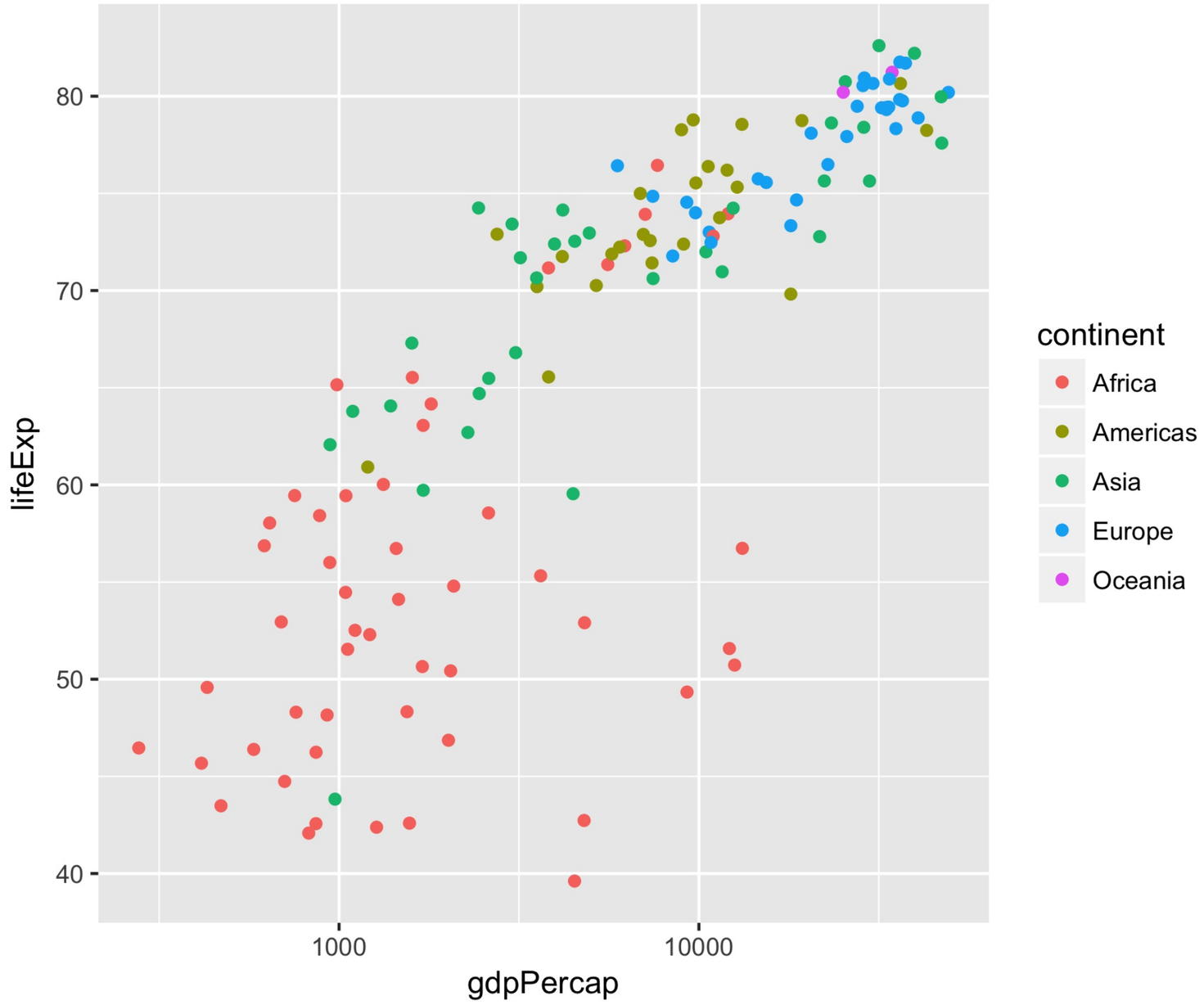
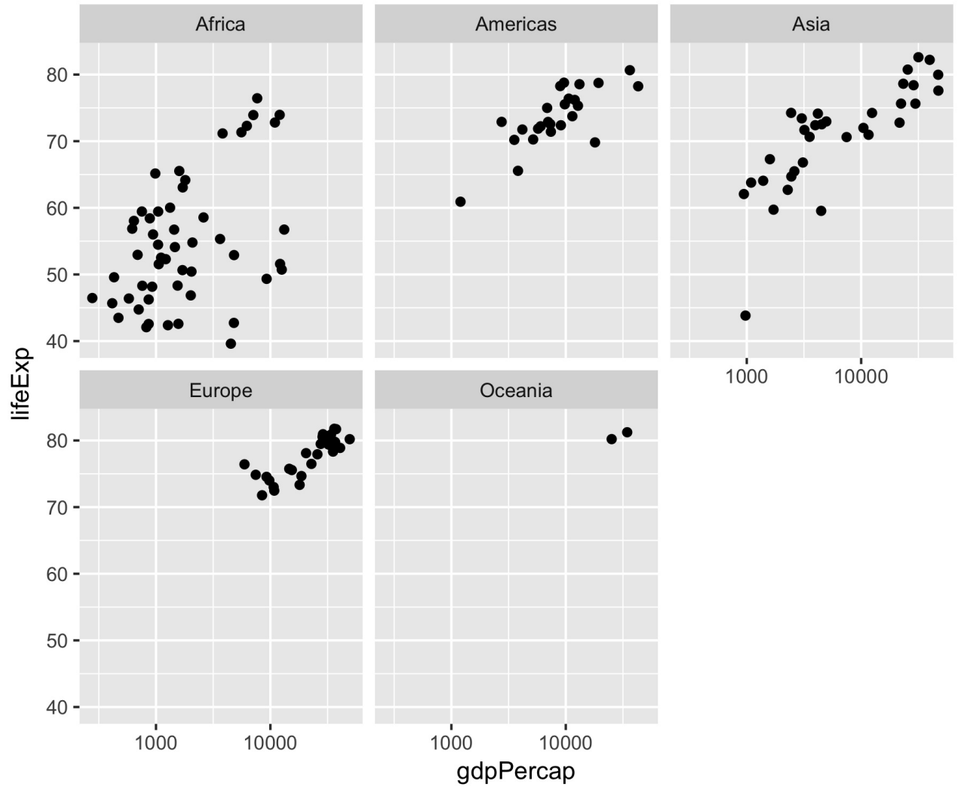

80
70
60
50
40
lifeExp
1000
10000
gdpPercap
continent
Africa
Americas
Asia
Europe
Oceania

Faceting




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


1952
1957
1962
1967
1972
1977
1982
1987
1992
1997
2002
2007
lifeExp
80
60
40
1e+03
1e+04
1e+05
gdpPercap
continent
Africa
Americas
Asia
Europe
Oceania
pop
2.50e+08
5.00e+08
7.50e+08
1.00e+09
1.25e+09

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