

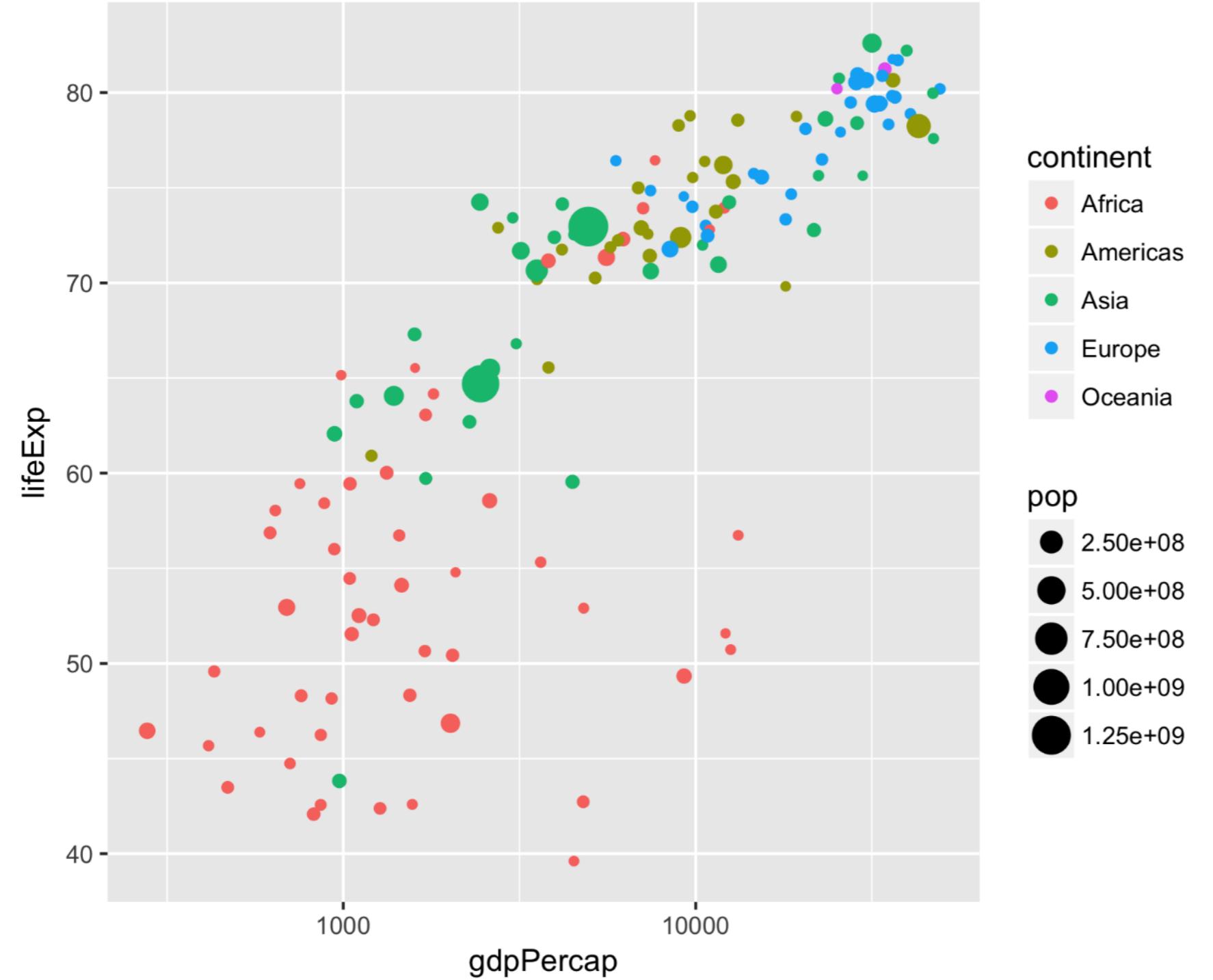
Visualizing with ggplot2

INTRODUCTION TO THE TIDYVERSE



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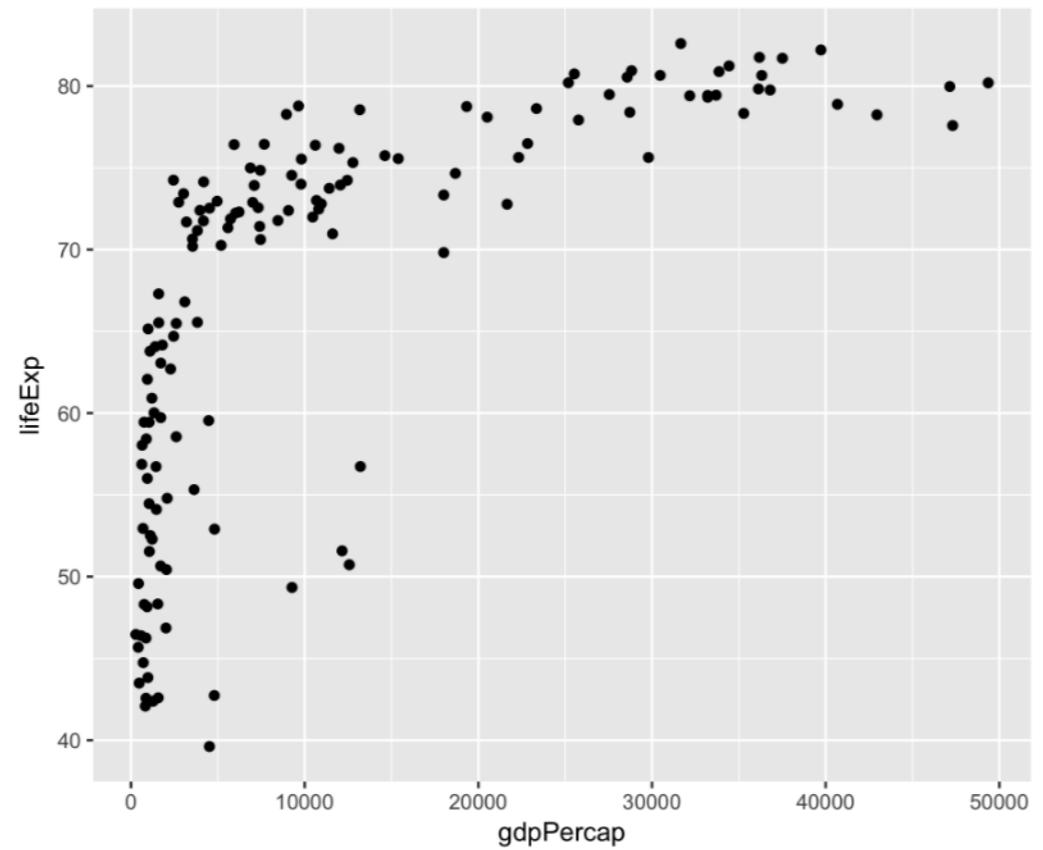
Variable Assignment

```
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()
```

Let's practice!

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Log scales

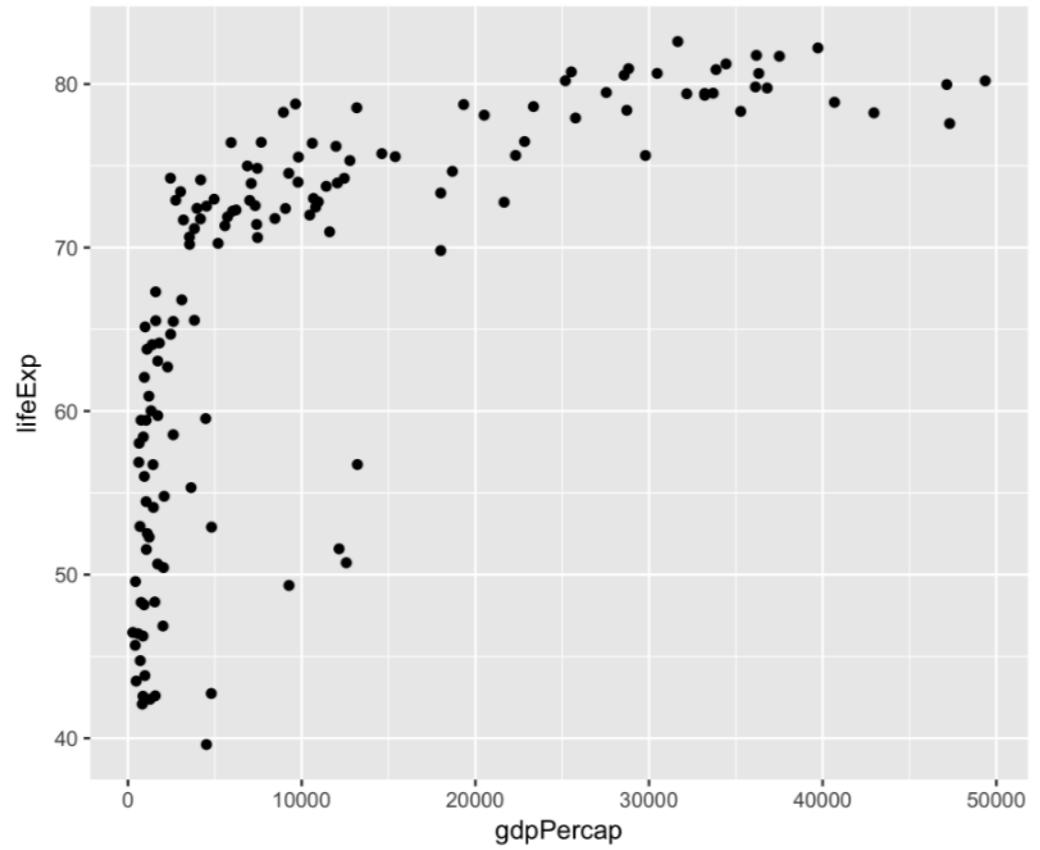
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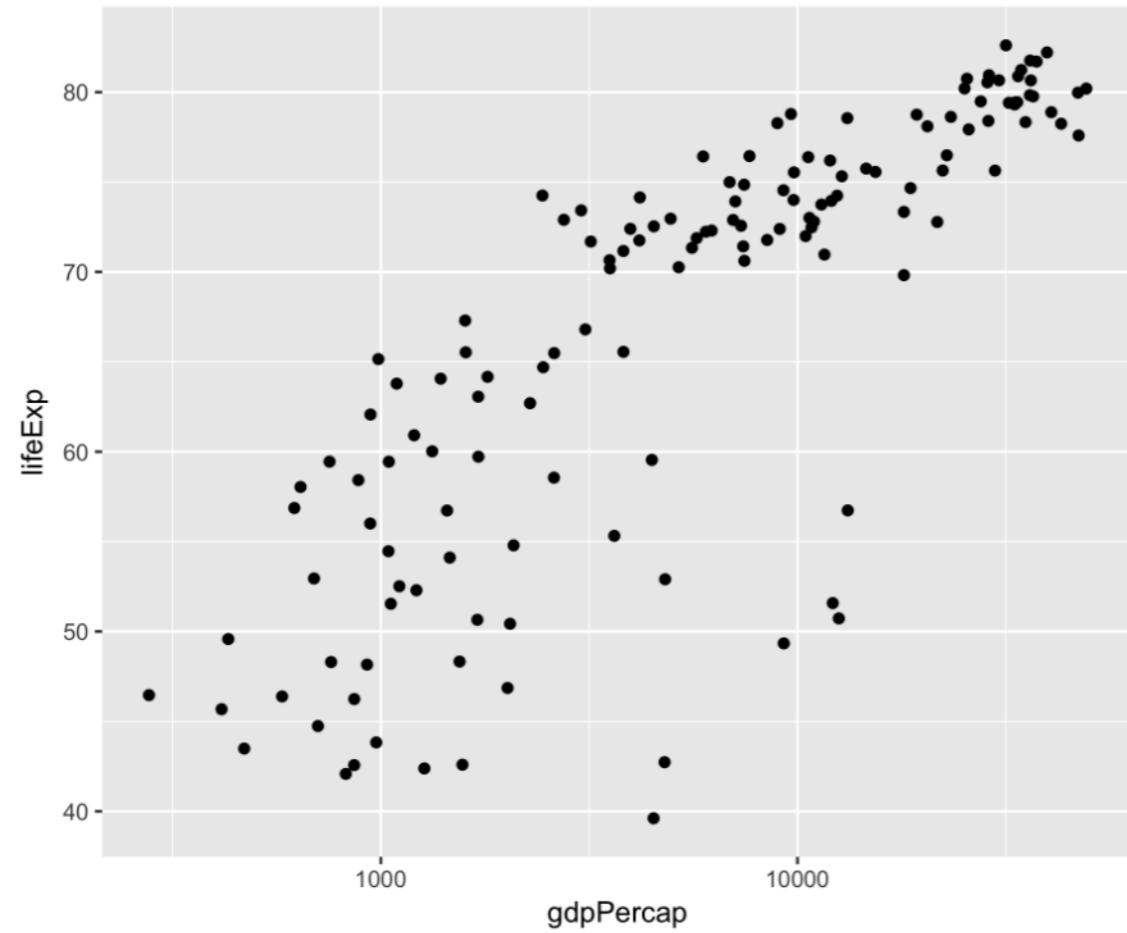
Scatter plot



```
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()
```

Let's practice!

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Additional aesthetics

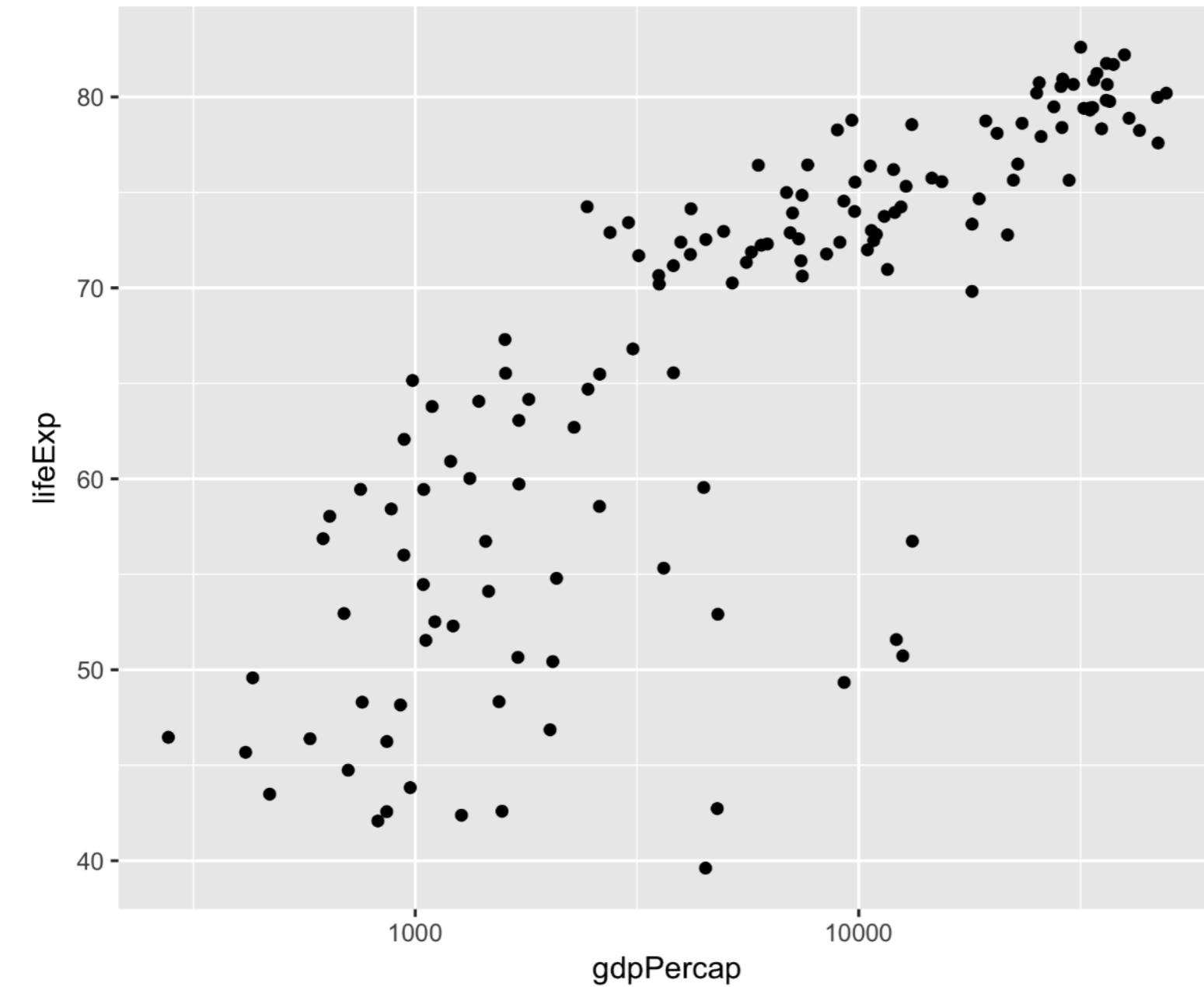
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Scatter plots

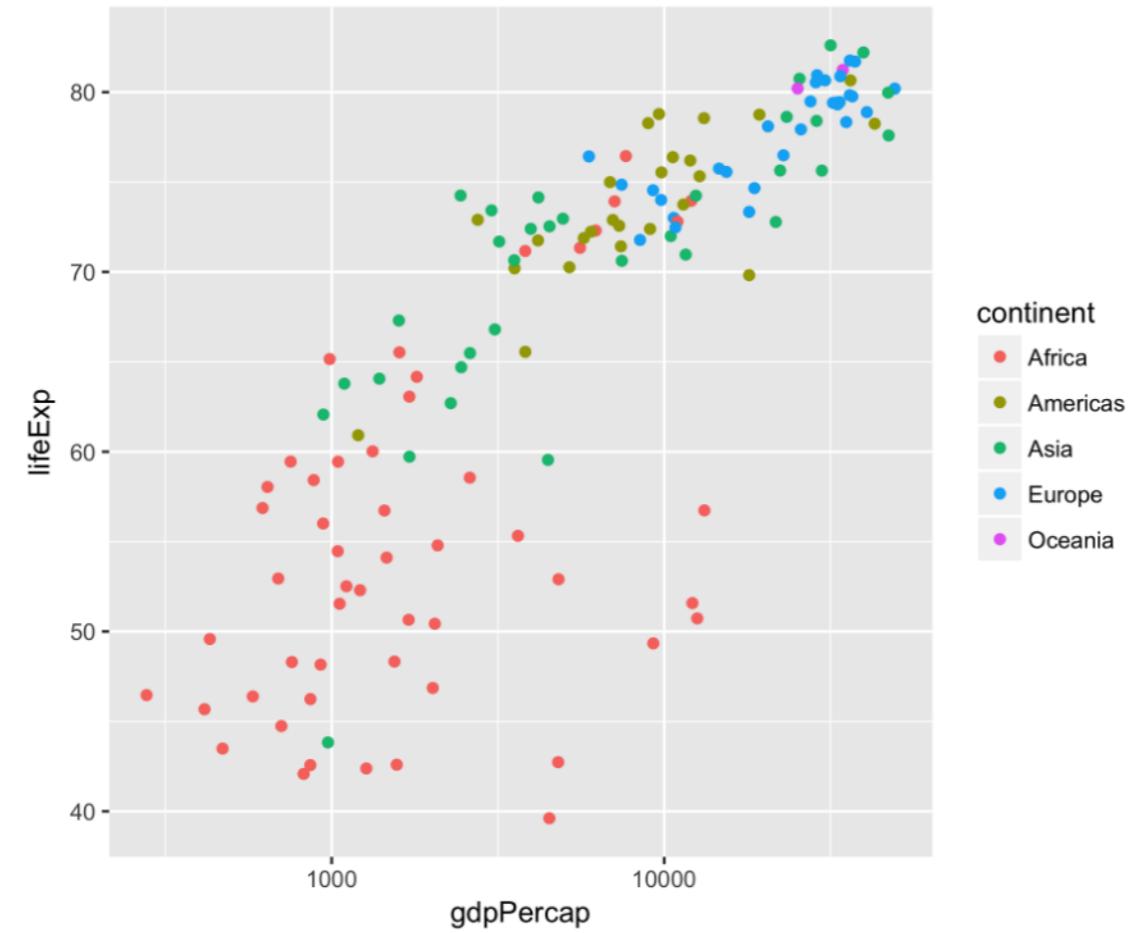


Additional variables

gapminder_2007

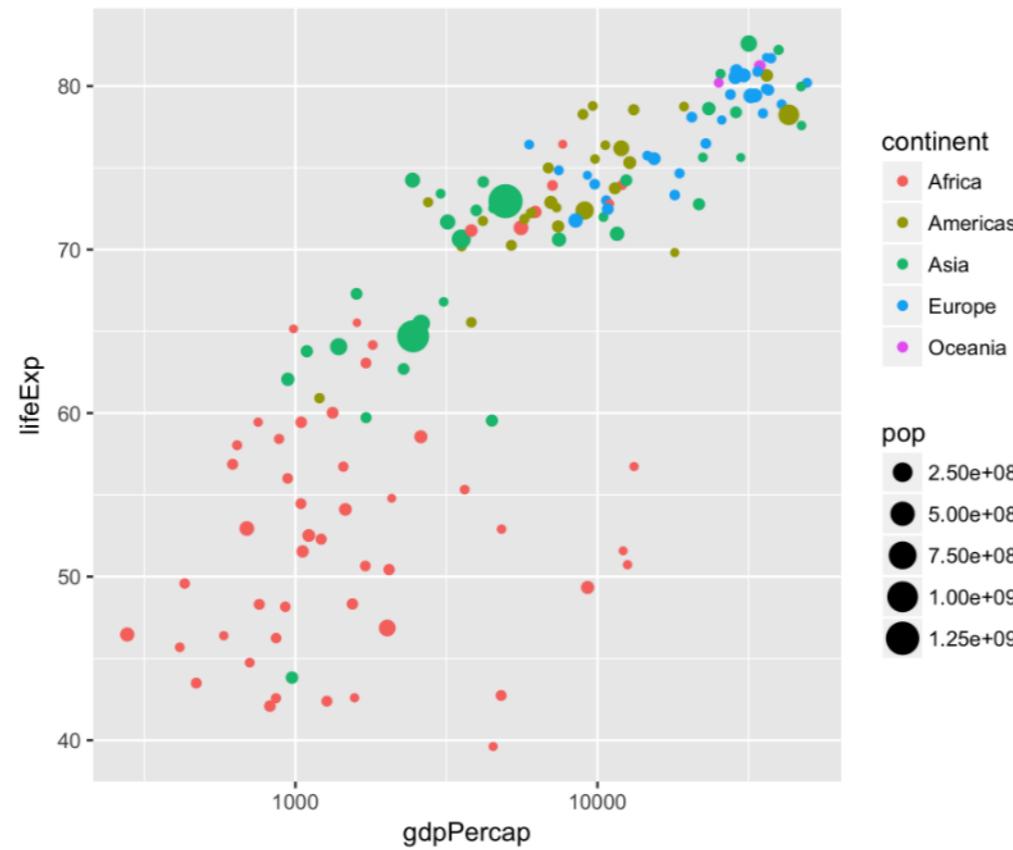
```
# A tibble: 142 x 6
  country continent year lifeExp      pop gdpPercap
  <fctr>    <fctr> <int>   <dbl>    <dbl>     <dbl>
1 Afghanistan    Asia  2007  43.828 31889923  974.5803
2 Albania        Europe 2007  76.423 3600523  5937.0295
3 Algeria         Africa 2007  72.301 33333216 6223.3675
4 Angola          Africa 2007  42.731 12420476 4797.2313
5 Argentina       Americas 2007  75.320 40301927 12779.3796
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
```

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

Let's practice!

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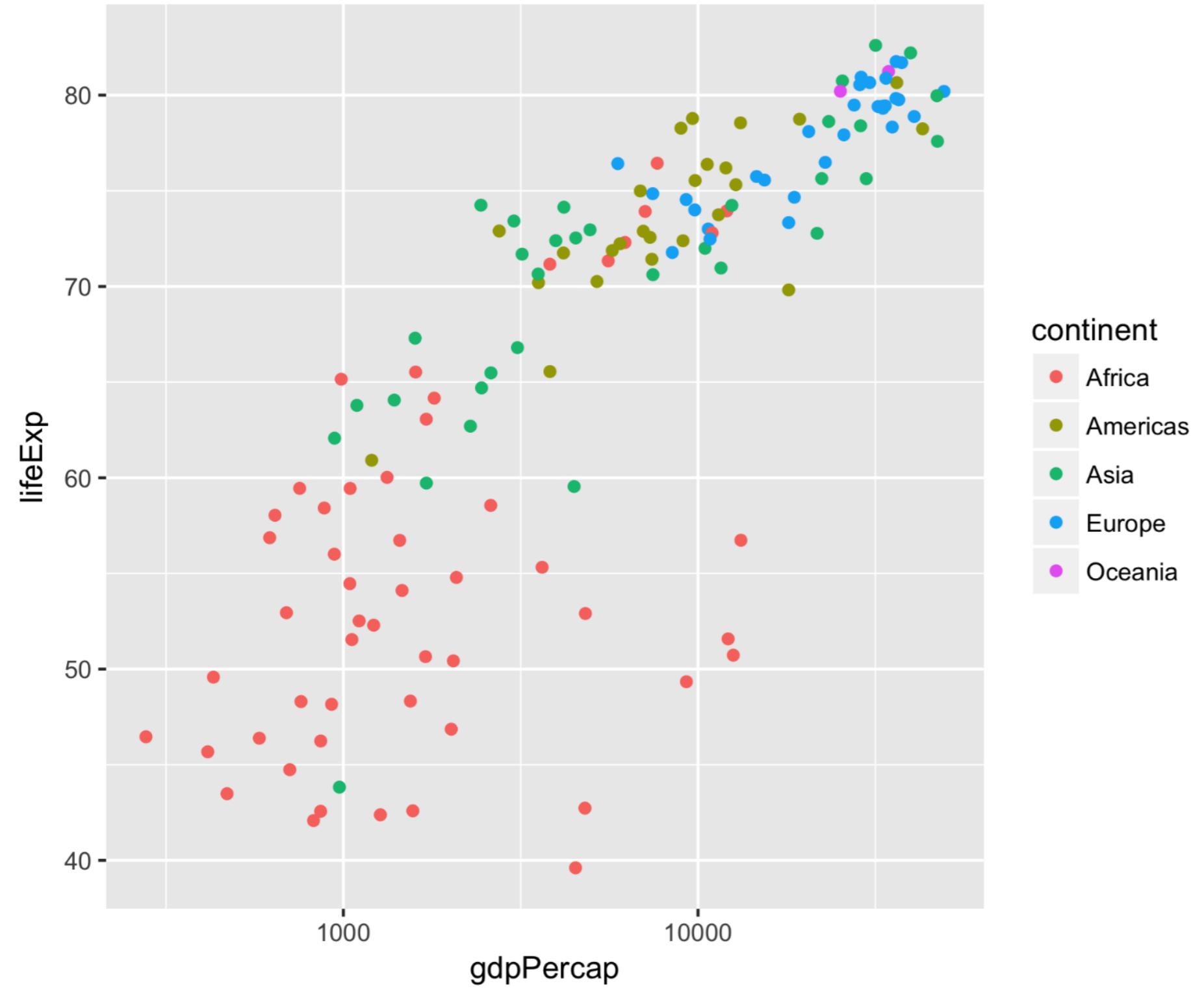
Faceting

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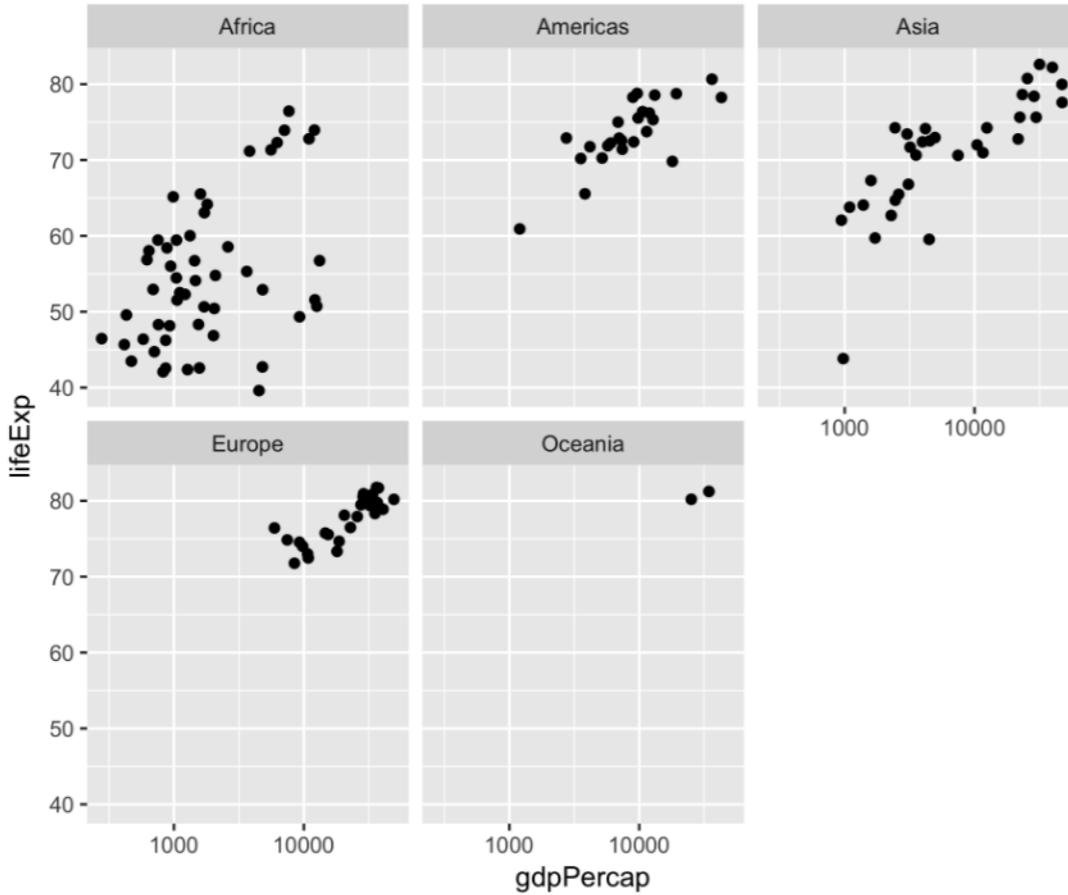


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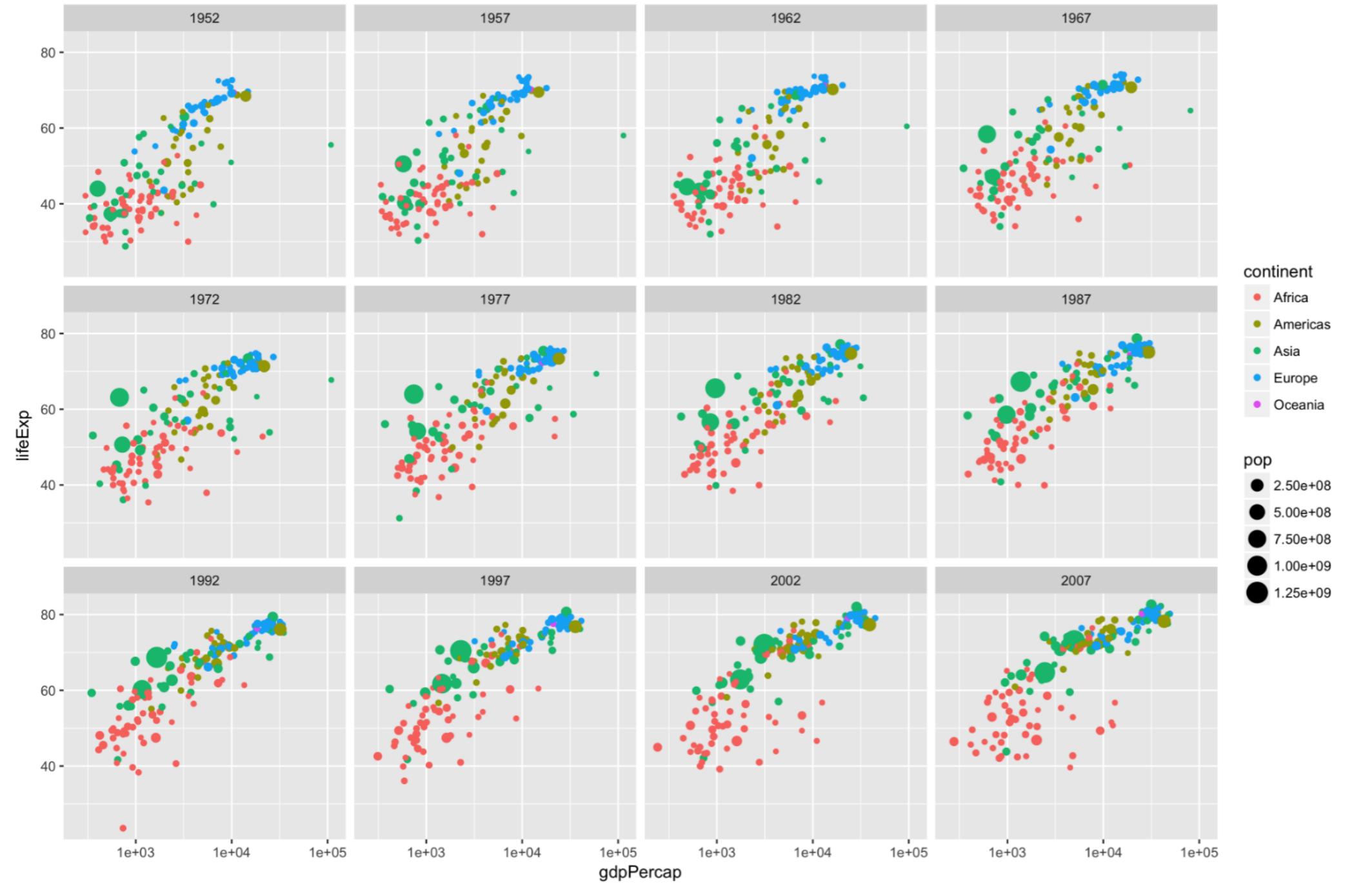
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Faceting



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



continent

- Africa
- Americas
- Asia
- Europe
- Oceania

pop

- 2.50e+08
- 5.00e+08
- 7.50e+08
- 1.00e+09
- 1.25e+09

Let's practice!

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