Gapminder

load the dataset

```
library(tidyverse)
```

```
## Loading tidyverse: ggplot2
## Loading tidyverse: tibble
## Loading tidyverse: tidyr
## Loading tidyverse: readr
## Loading tidyverse: purrr
## Loading tidyverse: dplyr
```

```
## Conflicts with tidy packages ----------------------------------------------
```

```
## filter(): dplyr, stats
## lag():    dplyr, stats
```

```
library(gapminder)
```

```
head(gapminder)
```

```
## # A tibble: 6 x 6
##       country continent  year lifeExp      pop gdpPercap
##        <fctr>    <fctr> <int>   <dbl>    <int>     <dbl>
## 1 Afghanistan      Asia  1952  28.801  8425333  779.4453
## 2 Afghanistan      Asia  1957  30.332  9240934  820.8530
## 3 Afghanistan      Asia  1962  31.997 10267083  853.1007
## 4 Afghanistan      Asia  1967  34.020 11537966  836.1971
## 5 Afghanistan      Asia  1972  36.088 13079460  739.9811
## 6 Afghanistan      Asia  1977  38.438 14880372  786.1134
```

```
tail(gapminder)
```

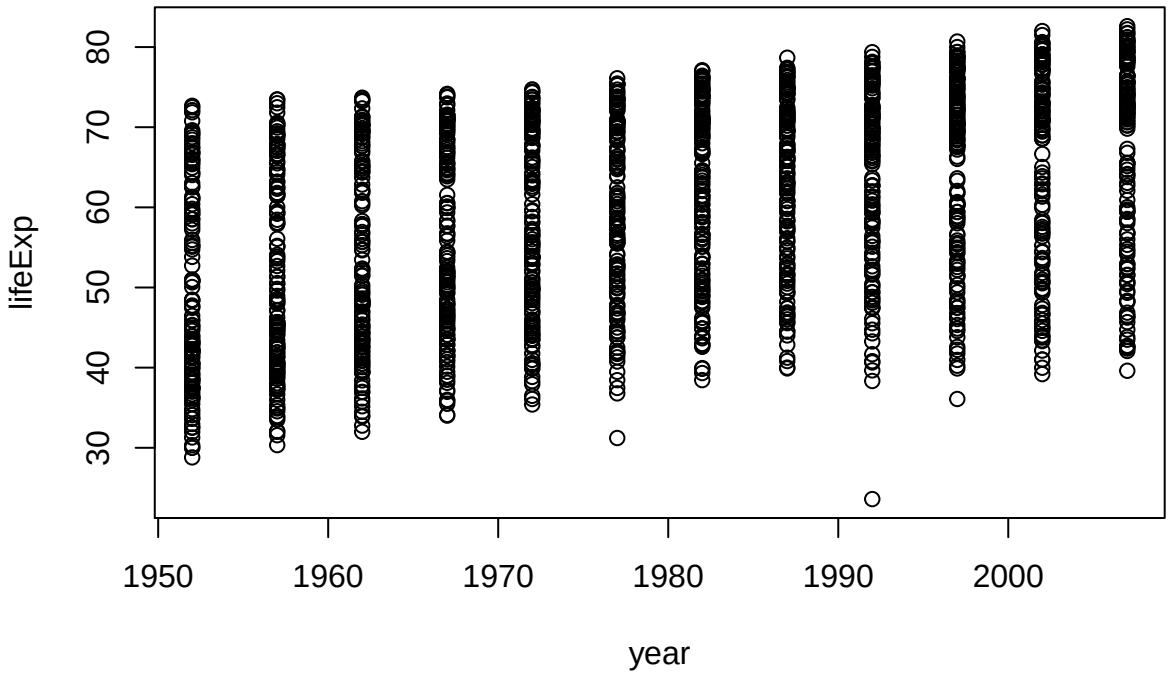
```
## # A tibble: 6 x 6
##    country continent  year lifeExp      pop gdpPercap
##     <fctr>    <fctr> <int>   <dbl>    <int>     <dbl>
## 1 Zimbabwe    Africa  1982  60.363  7636524  788.8550
## 2 Zimbabwe    Africa  1987  62.351  9216418  706.1573
## 3 Zimbabwe    Africa  1992  60.377 10704340  693.4208
## 4 Zimbabwe    Africa  1997  46.809 11404948  792.4500
## 5 Zimbabwe    Africa  2002  39.989 11926563  672.0386
## 6 Zimbabwe    Africa  2007  43.487 12311143  469.7093
```

```
str(gapminder)
```

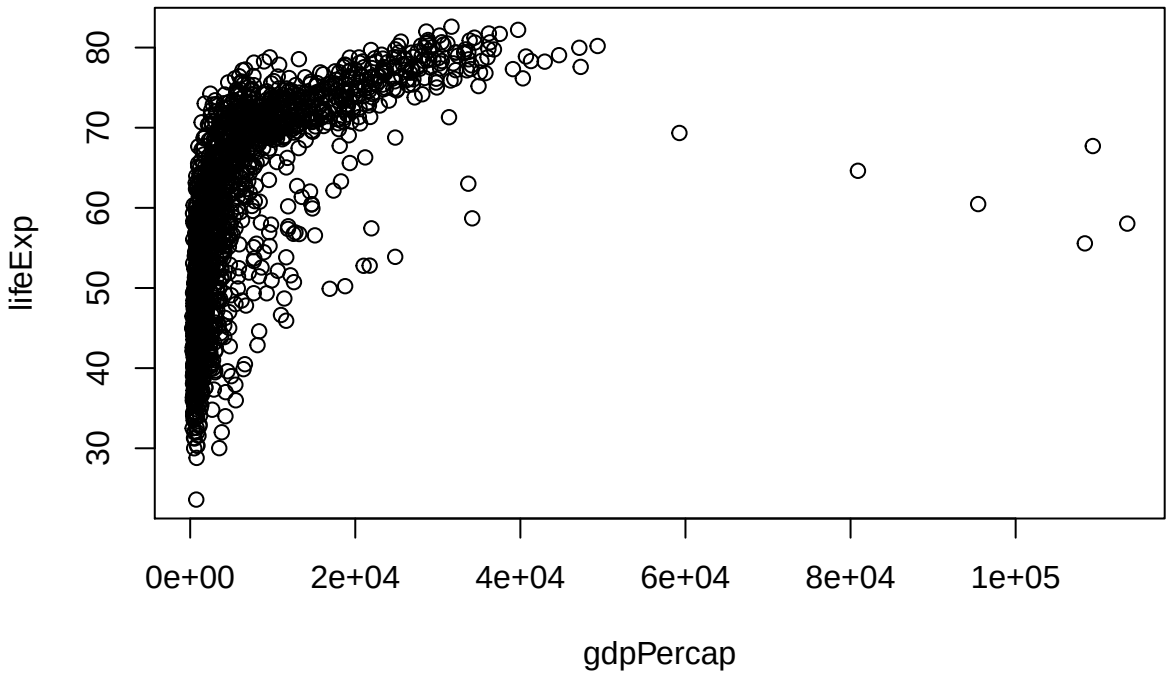
```
## Classes 'tbl_df', 'tbl' and 'data.frame':    1704 obs. of  6 variables:
##  $ country  : Factor w/ 142 levels "Afghanistan",..: 1 1 1 1 1 1 1 1 1 1 ...
##  $ continent: Factor w/ 5 levels "Africa","Americas",..: 3 3 3 3 3 3 3 3 3 3 ...
##  $ year     : int  1952 1957 1962 1967 1972 1977 1982 1987 1992 1997 ...
##  $ lifeExp  : num  28.8 30.3 32 34 36.1 ...
##  $ pop      : int  8425333 9240934 10267083 11537966 13079460 14880372 12881816 13867957 16317921 22
##  $ gdpPercap: num  779 821 853 836 740 ...
```

relationship between year and lifeExp

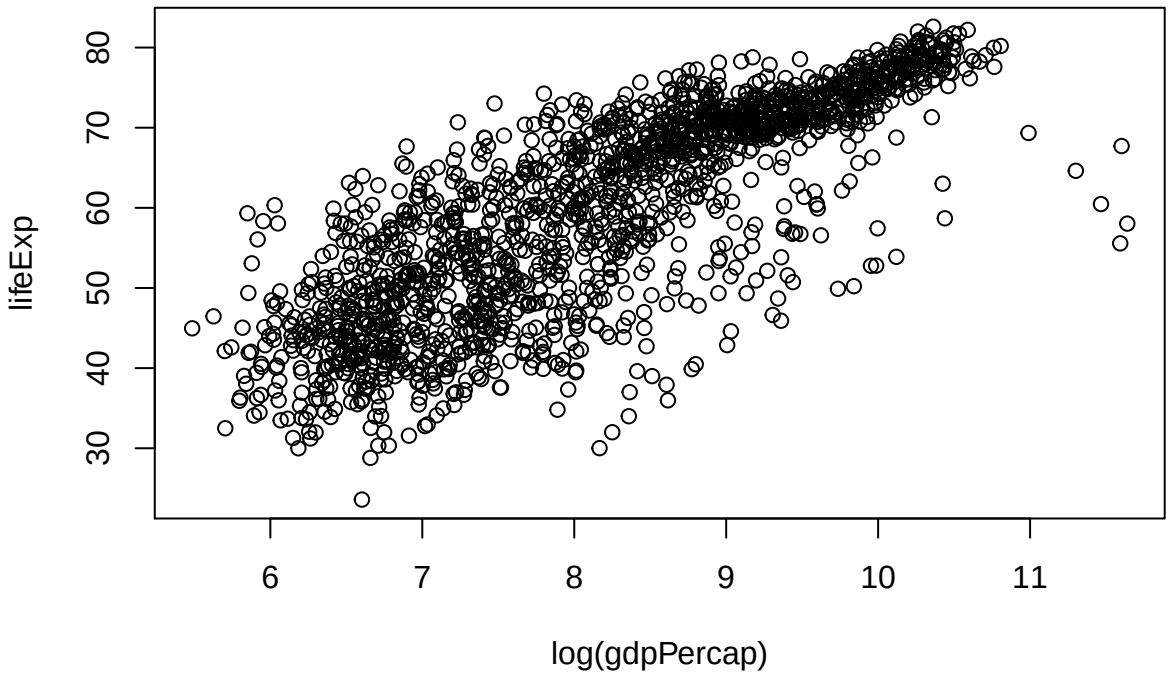
```
plot(lifeExp ~ year, gapminder)
```




```
plot(lifeExp ~ gdpPercap, gapminder)
```




```
plot(lifeExp ~ log(gdpPercap), gapminder)
```


lifeExp
30
40
50
60
70
80
6
7
8
9
10
11
log(gdpPercap)