2020MCS120003_LabAssignment03

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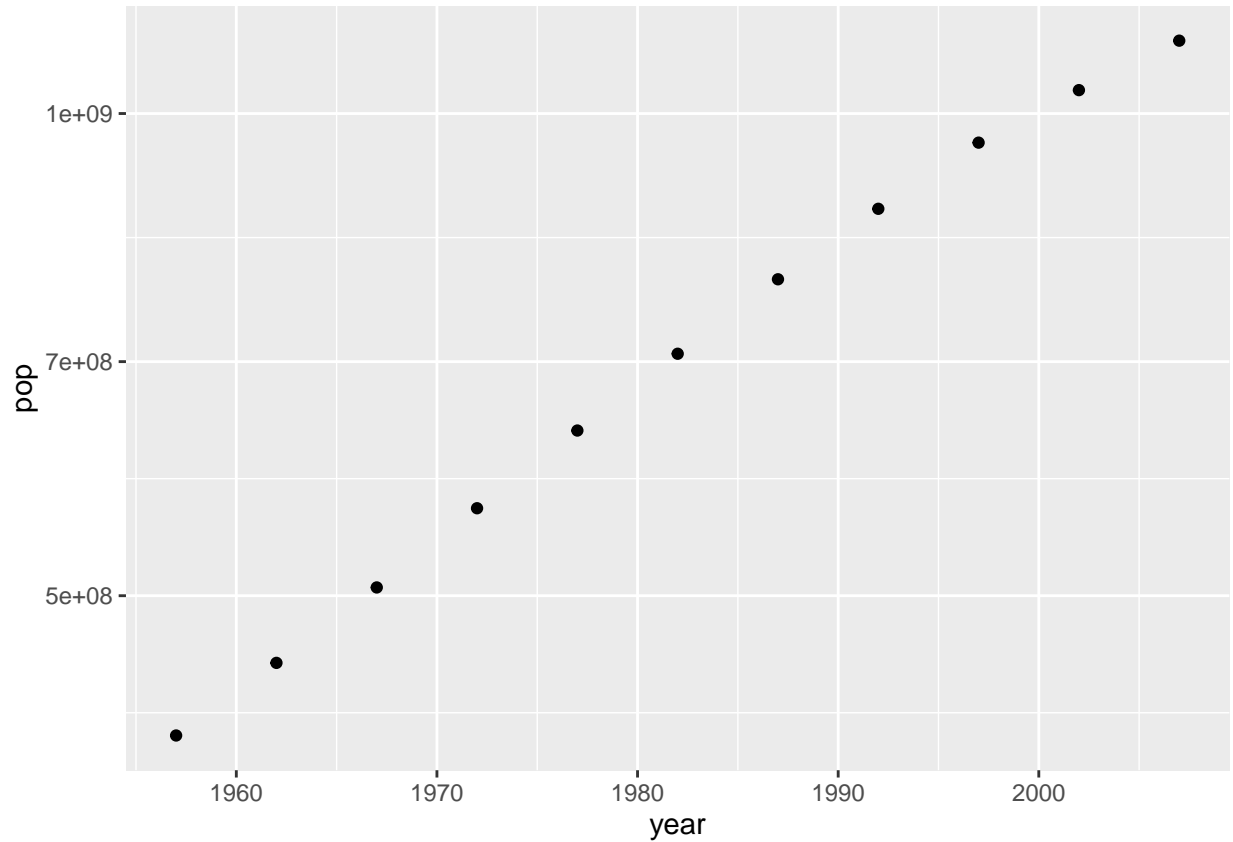### 2020MCS120003_LabAssignment03

Question 1

Ans:

Question 2

Ans:

Question 3

Ans:

```r
gapminder%>%
mutate(dollars_per_day=gdpPercap/(365*10^3))
```

```
## # A tibble: 1,704 x 7
##    country     continent  year lifeExp      pop gdpPercap dollars_per_day
##    <fct>       <fct>     <int>   <dbl>    <int>     <dbl>           <dbl>
##  1 Afghanistan Asia       1952    28.8  8425333      779.         0.00214
##  2 Afghanistan Asia       1957    30.3  9240934      821.         0.00225
##  3 Afghanistan Asia       1962    32.0 10267083      853.         0.00234
##  4 Afghanistan Asia       1967    34.0 11537966      836.         0.00229
##  5 Afghanistan Asia       1972    36.1 13079460      740.         0.00203
##  6 Afghanistan Asia       1977    38.4 14880372      786.         0.00215
##  7 Afghanistan Asia       1982    39.9 12881816      978.         0.00268
##  8 Afghanistan Asia       1987    40.8 13867957      852.         0.00234
##  9 Afghanistan Asia       1992    41.7 16317921      649.         0.00178
## 10 Afghanistan Asia       1997    41.8 22227415      635.         0.00174
## # ... with 1,694 more rows
```

2

Question 4

Ans:

```
x<-gapminder%>%
filter(country=="United States")%>%filter(year==2007)
rmarkdown::paged_table(x)
```

Question 5

Ans:

```
x<-gapminder %>%
arrange(gdpPercap)
rmarkdown::paged_table(x)
```

Question 6

Ans:

```
x<-gapminder %>%
arrange(lifeExp)
rmarkdown::paged_table(x)
```

Question 7

Ans:

```
x<-gapminder %>%
    filter(year == 1952)
rmarkdown::paged_table(x)
```

Question 8

Ans:

```
x<-gapminder %>%
    filter(continent == 'Europe')%>% filter(year == 1992) %>%
filter(pop == max(pop))
rmarkdown::paged_table(x)
```
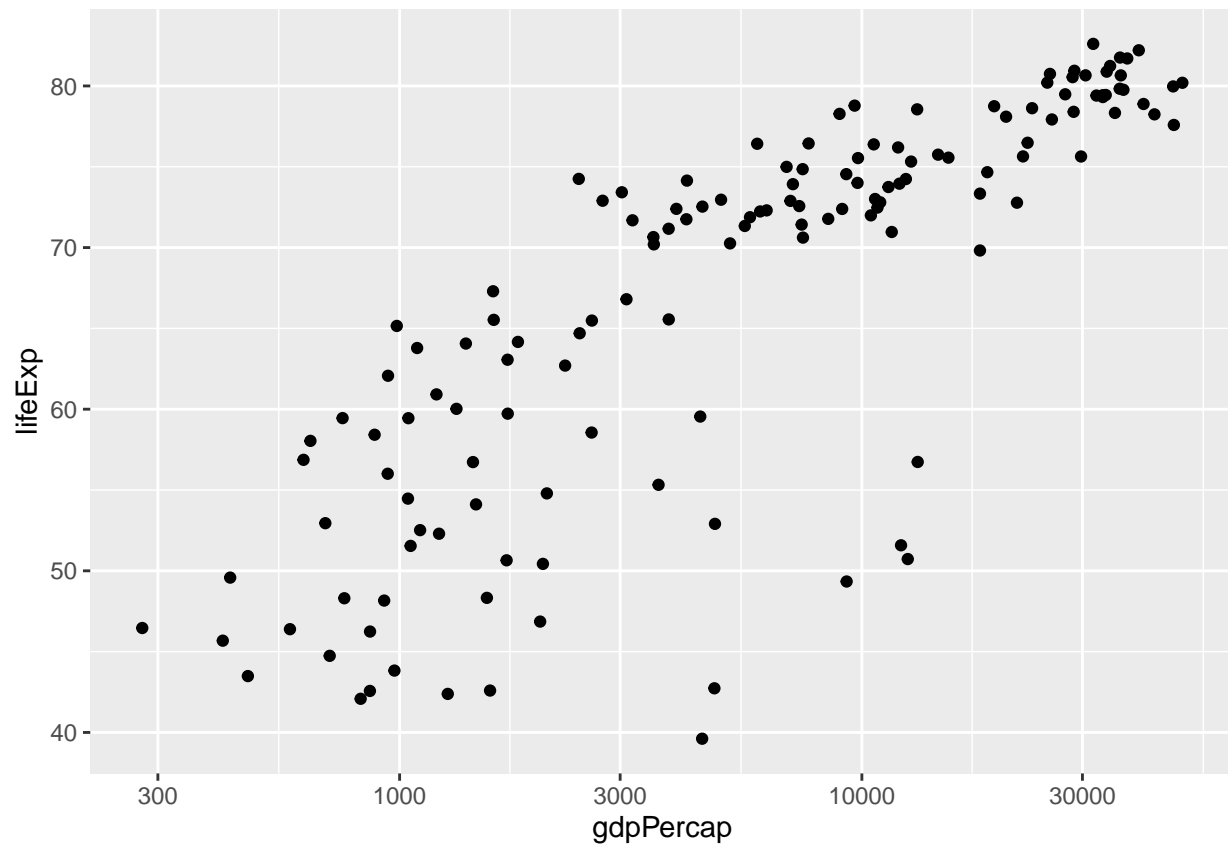
Question 9

Ans:

```r
x<-filter(filter (gapminder,continent == 'Europe',year == 1992),pop==max(pop))
rmarkdown::paged_table(x)
```
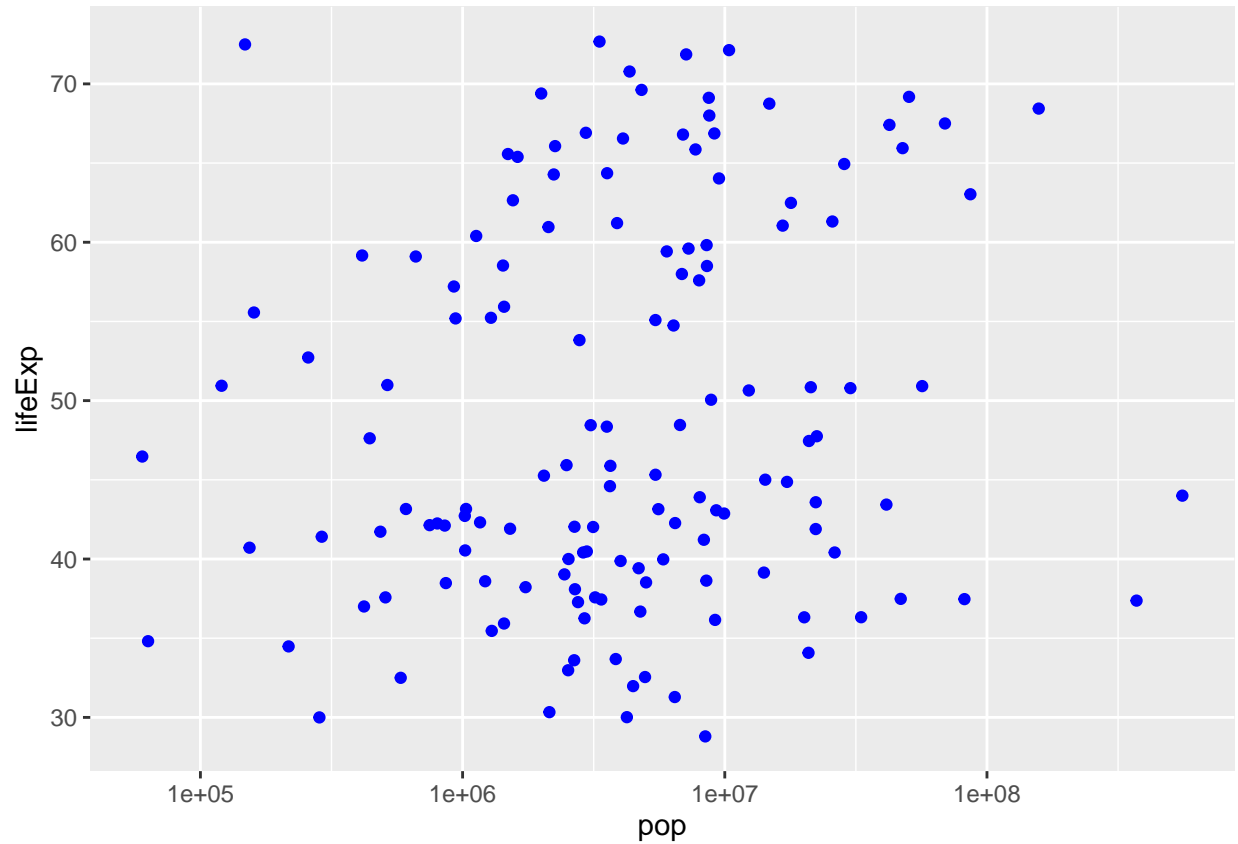
Question 10

Ans:

```r
gapminder_2007<- gapminder %>%
      filter(year == 2007)
ggplot(gapminder_2007, aes(x = gdpPercap, y = lifeExp)) +
geom_point() +scale_x_log10()
```
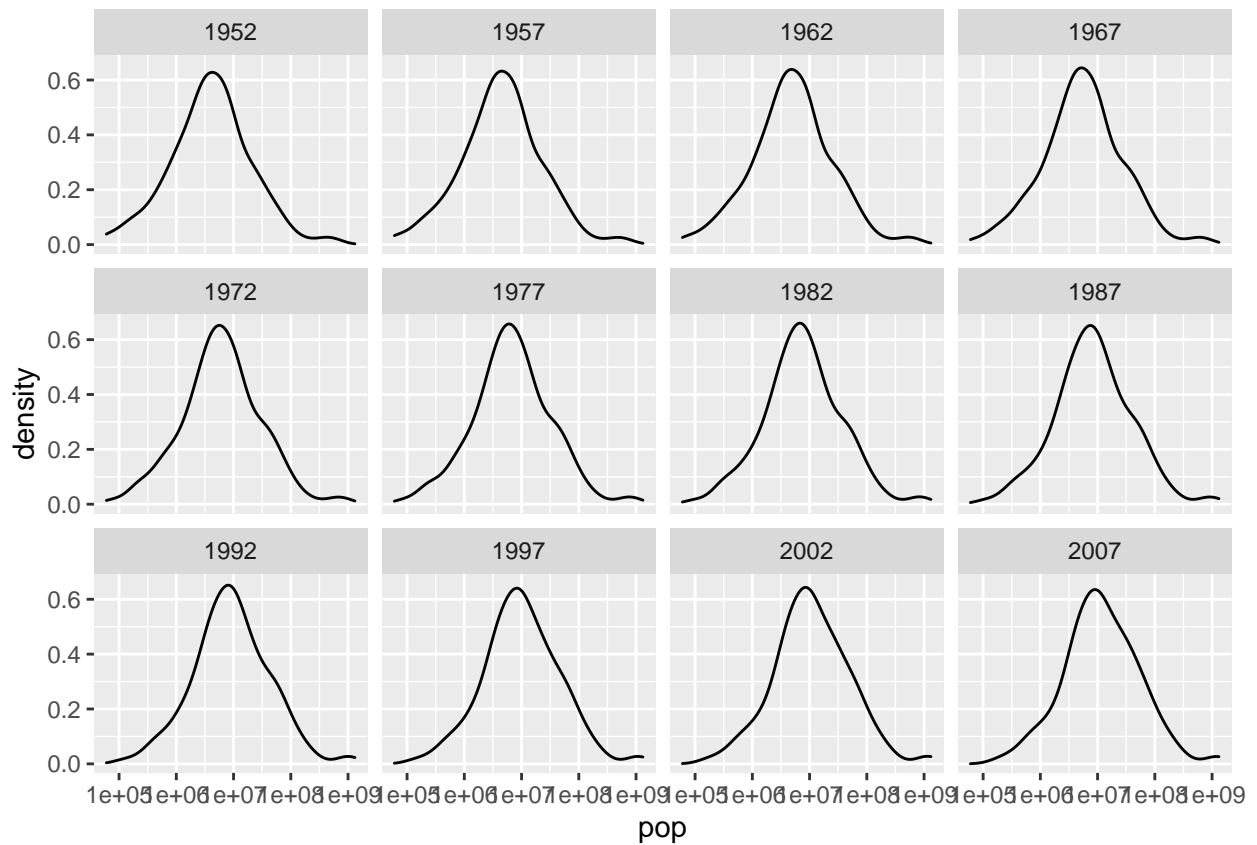

Question 11

Ans:

```
gapminder_1952 <- gapminder %>%
    filter(year == 1952)
ggplot(gapminder_1952, aes(x = pop, y = lifeExp, color = 'blue')) +
geom_point(color='blue') +scale_x_log10()
```
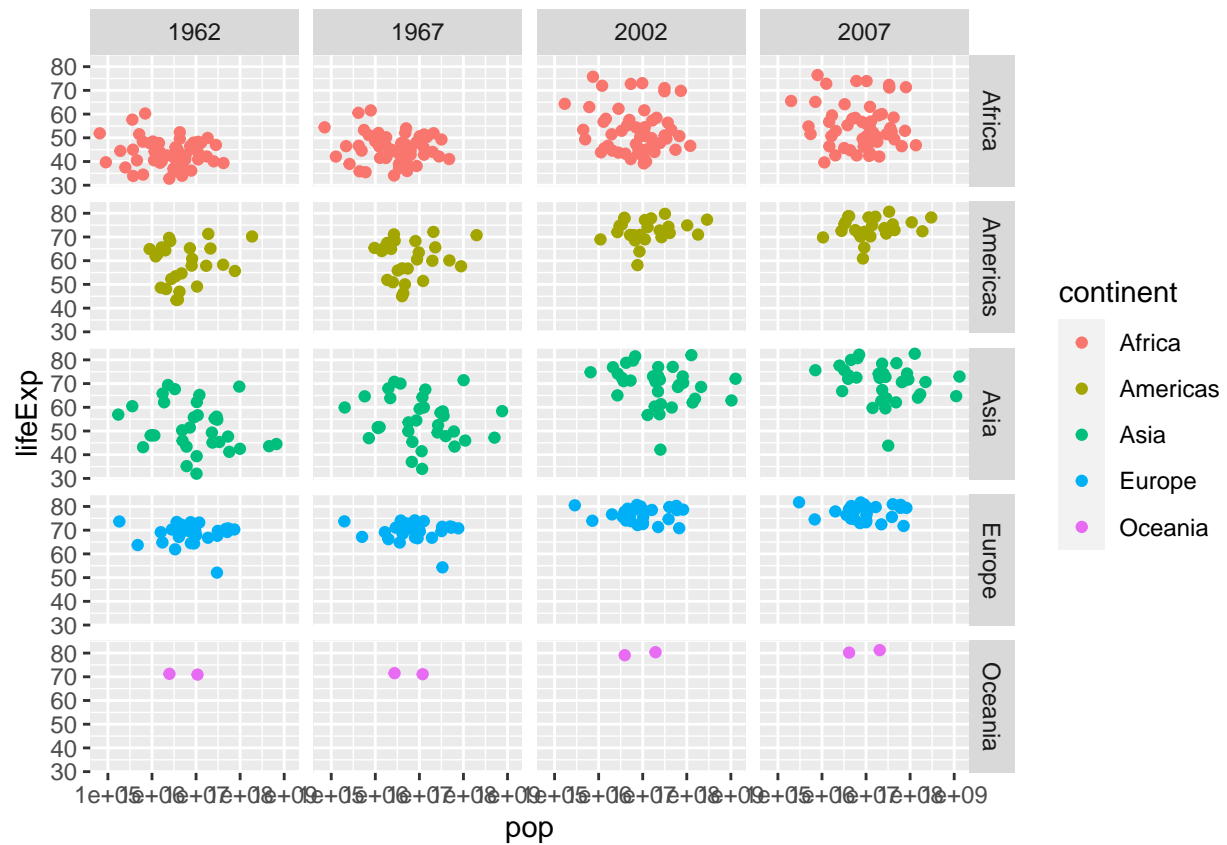

Question 12

Ans:

```
ggplot(gapminder,aes(x=pop))+
geom_density()+
scale_x_log10()+ facet_wrap(~year)
```

Question 13

Ans:
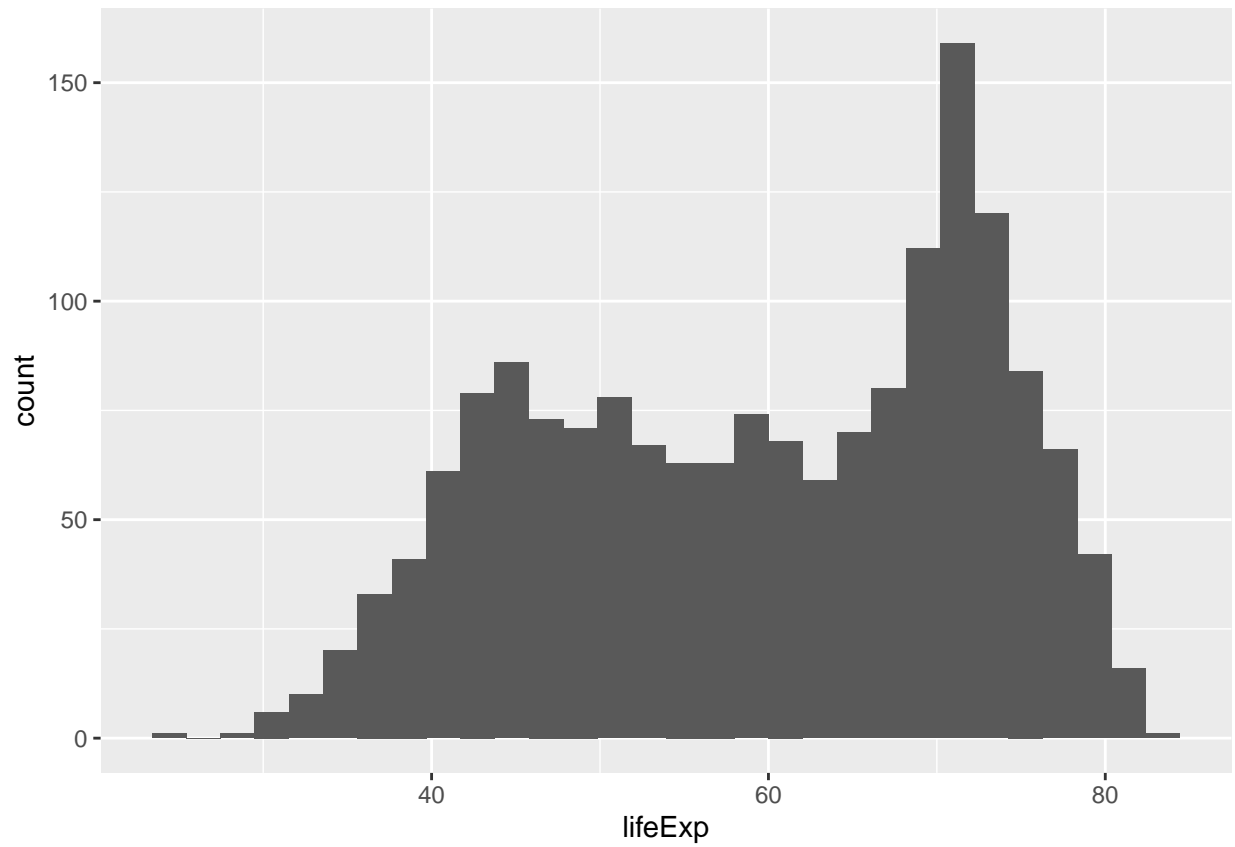
```
gapminder_1962 <- gapminder %>%
    filter(year == 1962)
gapminder_2007 <- gapminder %>%
   filter(year == 2007)
gapminder_2002 <- gapminder %>%
   filter(year == 2002)
gapminder_1967 <- gapminder %>%
   filter(year == 1967)
ggplot(rbind(gapminder_2007,gapminder_1962,gapminder_1967,gapminder_2002),aes(x=pop,y=lifeExp,color=con
```
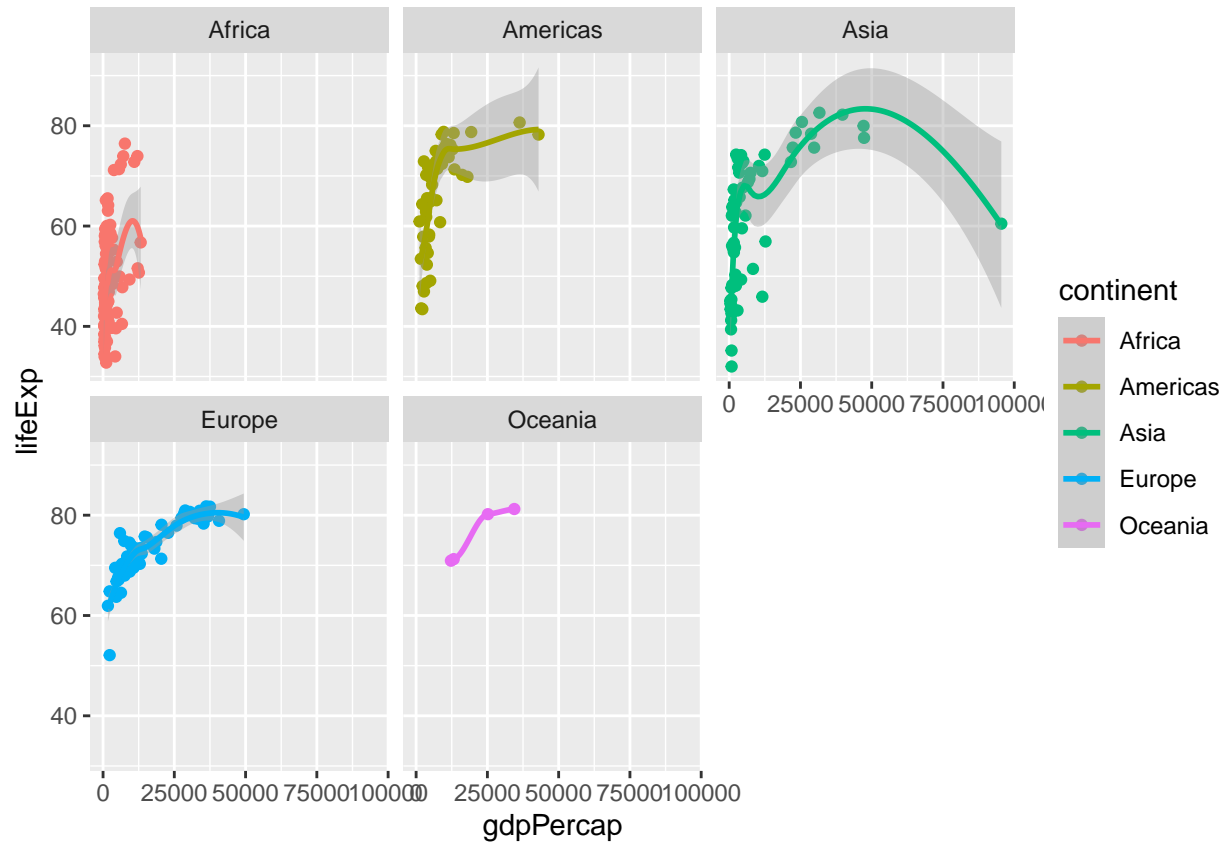
Question 14

Ans:

```r
ggplot(gapminder, aes(x =lifeExp)) +
geom_histogram(bins = 30)
```

Question 15

Ans:

```r
ggplot(rbind(gapminder_2007,gapminder_1962),aes(x=gdpPercap,y=lifeExp,color=continent))+geom_point()+ge
```

```
## 'geom_smooth()' using formula 'y ~ x'
```

Question 16 a)

Ans:

```
gapminder %>% filter(year == 2007, country == 'United States')
```

```
## # A tibble: 1 x 6
##   country       continent  year lifeExp       pop gdpPercap
##   <fct>         <fct>     <int>   <dbl>     <int>     <dbl>
## 1 United States Americas   2007    78.2 301139947    42952.
```

Question 16 b)

Ans:

```
gapminder %>%
filter(year==1977) %>%filter(country=='Ireland')
```

```
## # A tibble: 1 x 6
##   country continent  year lifeExp       pop gdpPercap
```

```
##   <fct>   <fct>    <int>  <dbl>   <int>    <dbl>
## 1 Ireland Europe    1977   72.0 3271900   11151.
```
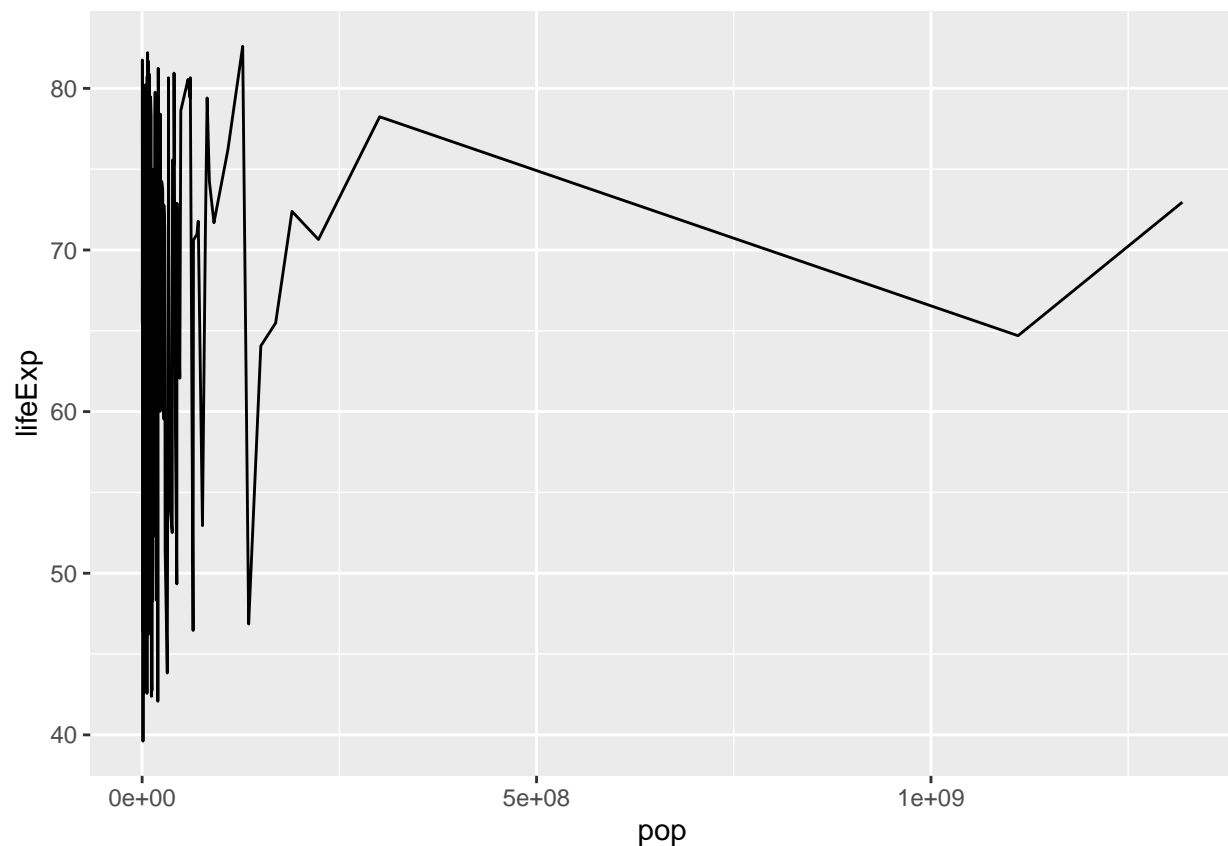
```
gapminder %>%
filter(year==1977) %>%filter(country== 'Brazil')
```

```
## # A tibble: 1 x 6
##   country continent  year lifeExp       pop gdpPercap
##   <fct>   <fct>     <int>  <dbl>     <int>     <dbl>
## 1 Brazil  Americas   1977   61.5 114313951     6660.
```

Question 17 a)

Ans:

```
gapminder_2007 <- gapminder %>%
filter(year == 2007)
ggplot(gapminder_2007, aes(x = pop, y =lifeExp )) +
geom_line()
```
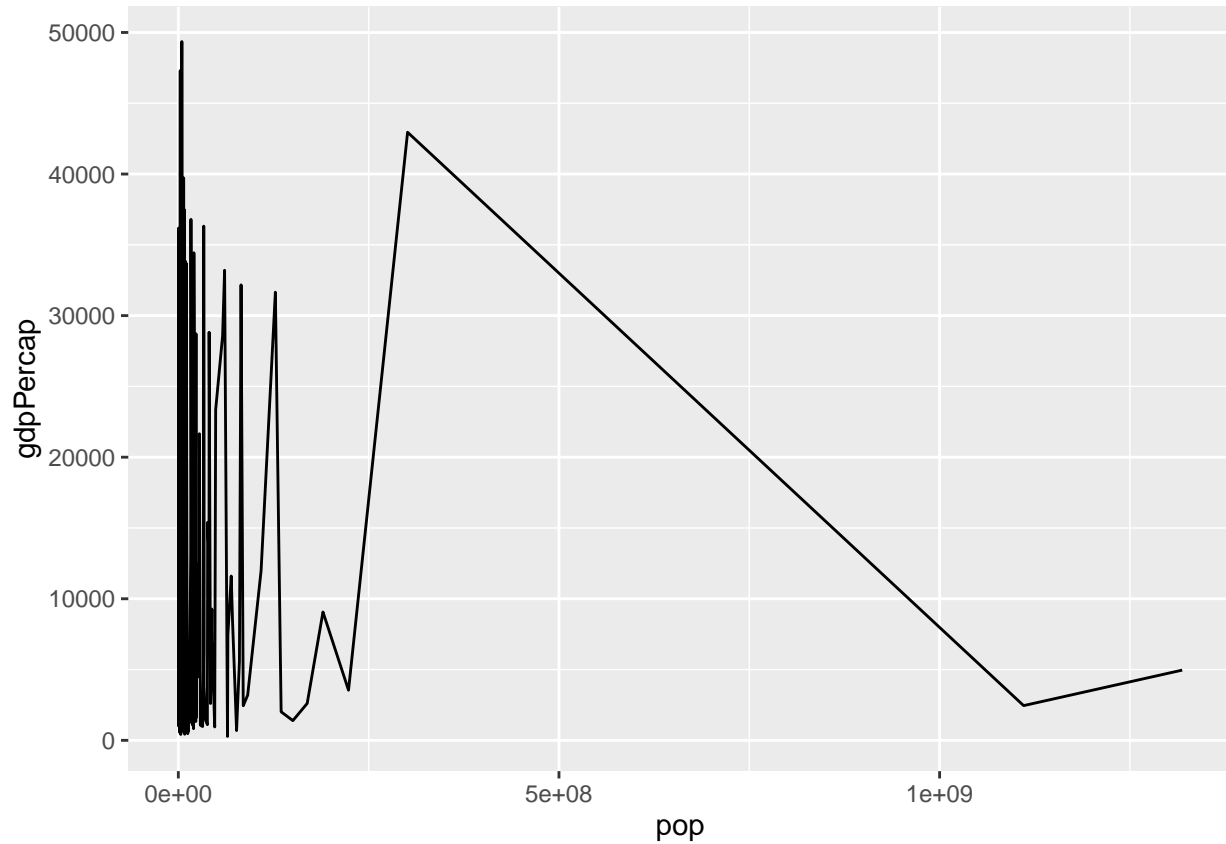

Population is inversely proportional to the life expectancy

Question 17 b)

Ans:

```
gapminder_2007 <- gapminder %>%
filter(year == 2007)
ggplot(gapminder_2007, aes(x = pop, y =gdpPercap )) +
geom_line()
```


Population and gdpPercap are inversely proportional.

Question 18

Ans:

```
x<-gapminder %>%
  mutate(lifeExp=12*lifeExp)%>%arrange(lifeExp)%>%
filter(continent=="Americas")%>%filter(year==1962)
rmarkdown::paged_table(x)
```

Bolivia has the shortest life expectancy in 1962.

Question 19 a)

11

Ans:

```
gapminder_1952<-gapminder %>%
filter(year==1952)
gapminder_1952
```

```
## # A tibble: 142 x 6
##    country     continent  year lifeExp      pop gdpPercap
##    <fct>       <fct>     <int>  <dbl>    <int>     <dbl>
##  1 Afghanistan Asia       1952   28.8  8425333      779.
##  2 Albania     Europe     1952   55.2  1282697     1601.
##  3 Algeria     Africa     1952   43.1  9279525     2449.
##  4 Angola      Africa     1952   30.0  4232095     3521.
##  5 Argentina   Americas   1952   62.5 17876956     5911.
##  6 Australia   Oceania    1952   69.1  8691212    10040.
##  7 Austria     Europe     1952   66.8  6927772     6137.
##  8 Bahrain     Asia       1952   50.9   120447     9867.
##  9 Bangladesh  Asia       1952   37.5 46886859      684.
## 10 Belgium     Europe     1952   68    8730405     8343.
## # ... with 132 more rows
```

Question 19 b)

Ans:

```
ggplot(gapminder_1952,aes(x=pop,y=lifeExp,color=continent))+ geom_point()+scale_x_log10()
```