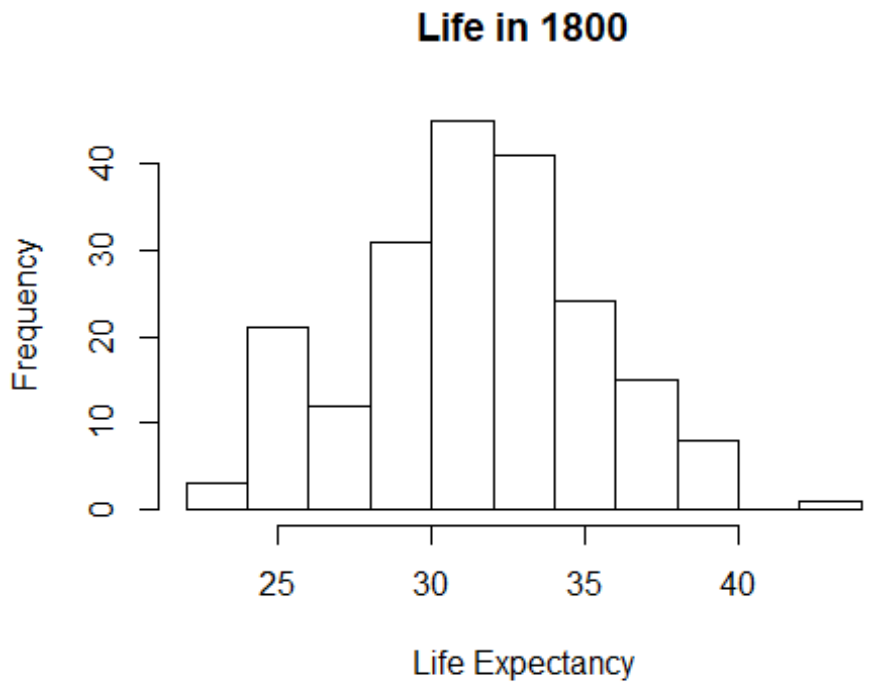
LifeExp

```
colnames(life)[1] <- 'country'

#Life expecancy in 1800
summary(life$'1800')

##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.    NA's
##   23.39   29.00   31.80   31.49   33.90   42.85     798

hist(life$'1800', xlab='Life Expectancy', main='Life in 1800')
```



```r
#Life expectancy in 2016
summary(life$'2016')
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.    NA's
##   48.86   67.17   74.50   72.56   78.65   84.80     791
```

```r
hist(life$'2016', xlab='Life Expectancy', main='Life in 2016')
```

```r
library(tidyr)
lifel <- gather(life, 'year', 'life_exp', -'country')

#checked and saw lots of missing values that needed to be cleaned
sum(is.na(lifel))
```

```
## [1] 172926
```

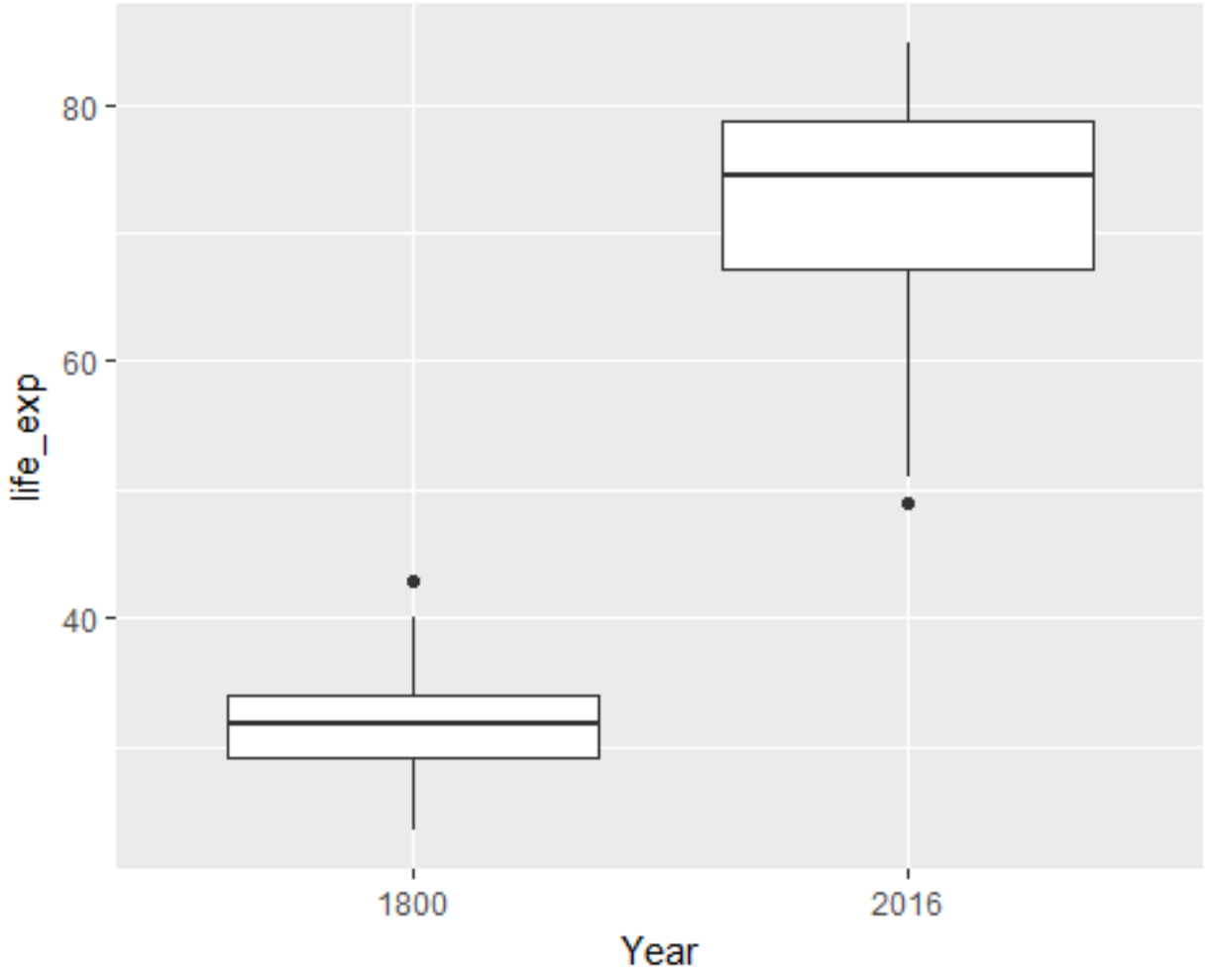
```r
#ommiting the blank rows
lifel <- na.omit(lifel)

sum(is.na(lifel))
```

```
## [1] 0
```

```r
ggplot(lifel, aes(x=year, y=life_exp)) +geom_boxplot()+
  scale_x_discrete('Year', limits=c('1800', '2016'))
```

```
## Warning: Removed 43448 rows containing non-finite values (stat_boxplot).
```



```r
#We can see life expectancy starts to change for most of the world in 1920s
ggplot(lifel, aes(x=year, y=life_exp)) +geom_boxplot(alpha=1/100) +
  scale_x_discrete(limits = seq('1800','2016', by=10), breaks =
seq('1800','2016', by=10))
```

```
## Warning: Removed 39409 rows containing non-finite values (stat_boxplot).
```