Latihan4_123190044

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1

```
pop <-sort(murders$population)
pop[1]
```

```
## [1] 563626
```

2

```
pop <- order(murders$population)
pop[1]
```

```
## [1] 51
```

3

```
pop <-which.min(murders$population)
pop
```

```
## [1] 51
```

4

```
pop <-which.min(murders$population)
v<-murders$state
v[pop]
```

```
## [1] "Wyoming"
```

5

```
ranks <-rank(murders$population)
state1<-(murders$state)
my_df <- data.frame(state = state1, ranking = ranks)
my_df
```

```
##                       state ranking
## 1                   Alabama      29
## 2                    Alaska       5
## 3                   Arizona      36
## 4                  Arkansas      20
## 5                California      51
## 6                  Colorado      30
## 7               Connecticut      23
## 8                  Delaware       7
## 9      District of Columbia       2
## 10                  Florida      49
## 11                  Georgia      44
## 12                   Hawaii      12
## 13                    Idaho      13
## 14                 Illinois      47
## 15                  Indiana      37
## 16                     Iowa      22
## 17                   Kansas      19
## 18                 Kentucky      26
## 19                Louisiana      27
## 20                    Maine      11
## 21                 Maryland      33
## 22            Massachusetts      38
## 23                 Michigan      43
## 24                Minnesota      31
## 25              Mississippi      21
## 26                 Missouri      34
## 27                  Montana       8
## 28                 Nebraska      14
## 29                   Nevada      17
## 30            New Hampshire      10
## 31               New Jersey      41
## 32               New Mexico      16
## 33                 New York      48
## 34           North Carolina      42
## 35             North Dakota       4
## 36                     Ohio      45
## 37                 Oklahoma      24
## 38                   Oregon      25
## 39             Pennsylvania      46
## 40             Rhode Island       9
## 41           South Carolina      28
## 42             South Dakota       6
## 43                Tennessee      35
## 44                    Texas      50
## 45                     Utah      18
## 46                  Vermont       3
## 47                 Virginia      40
```

```
## 48          Washington    39
## 49       West Virginia    15
## 50           Wisconsin    32
## 51             Wyoming     1
```
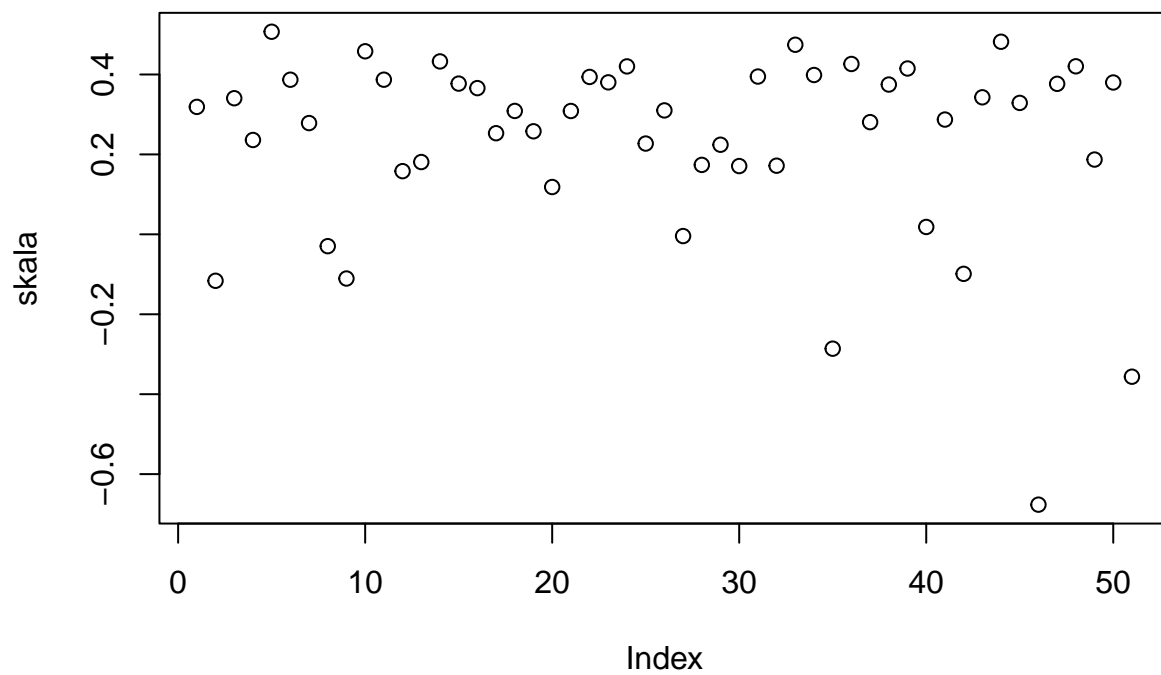
6

```
ranks <-rank(murders$population)
ind <- order(ranks)
state1<-(murders$state)
my_df <- data.frame(state = state1, ranking = ind)
hasil <- my_df[ind,]
hasil
```

```
##                      state ranking
## 51                 Wyoming       5
## 9   District of Columbia      40
## 46                 Vermont      39
## 35            North Dakota      43
## 2                   Alaska       9
## 42            South Dakota      34
## 8                 Delaware      27
## 27                 Montana      19
## 40            Rhode Island      47
## 30           New Hampshire       6
## 20                   Maine       4
## 12                  Hawaii      12
## 13                   Idaho      13
## 28                Nebraska      41
## 49           West Virginia      10
## 32              New Mexico      50
## 29                  Nevada       1
## 45                    Utah      36
## 17                  Kansas      29
## 4                 Arkansas      35
## 25             Mississippi      38
## 16                    Iowa      32
## 7              Connecticut       8
## 37                Oklahoma      15
## 38                  Oregon      22
## 18                Kentucky      45
## 19               Louisiana      17
## 41          South Carolina      31
## 1                  Alabama      51
## 6                 Colorado      42
## 24               Minnesota      37
## 50               Wisconsin      44
## 21                Maryland      25
## 26                Missouri      18
## 43               Tennessee      23
## 3                  Arizona      46
## 15                 Indiana      49
```

```
## 22        Massachusetts      16
## 48           Washington      33
## 47             Virginia      14
## 31           New Jersey      24
## 34       North Carolina      26
## 23             Michigan       7
## 11              Georgia      20
## 36                 Ohio       3
## 39         Pennsylvania      48
## 14             Illinois      28
## 33             New York      21
## 10              Florida      30
## 44                Texas      11
## 5            California       2
```
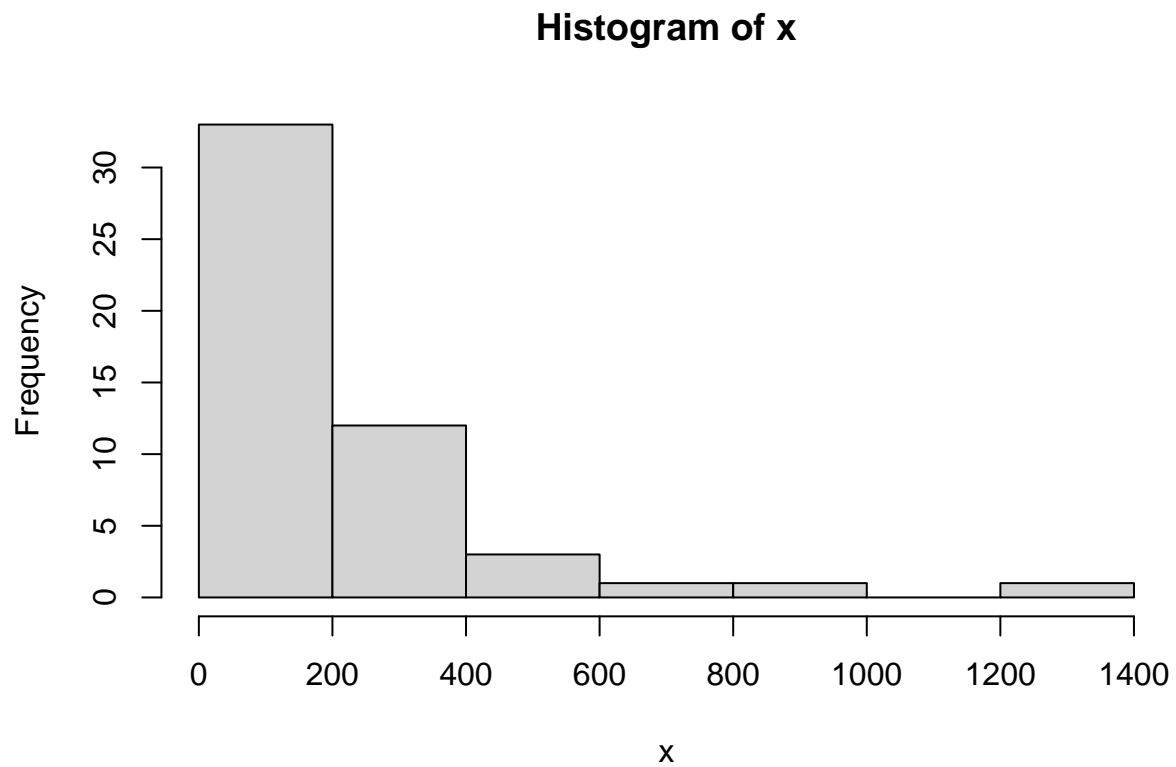
7

```
population_in_millions <- murders$population/10^6
total_gun_murders <- murders$total
skala <- log(population_in_millions, total_gun_murders)
plot(skala)
```

8

```r
x <- with(murders, total)
hist(x)
```

Histogram of x

9

```r
murders$rate <- with(murders, total / population * 100000)
boxplot(rate~population, data = murders)
```