

Tugas 3

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Import Data

```
library(dslabs)  
data(murders)
```

Nomor 1

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

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

Nomor 2

```
index <- order(pop)  
index[1]
```

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

Nomor 3

```
which.min(murders$population)
```

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

Nomor 4

```

index <- which.min(murders$population)
negara <- murders$state
negara[index]

```

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

Nomor 5

```

ranks <- rank(murders$population)
my_dff <- data.frame(states = negara, ranks = ranks)
my_dff

```

```

##           states ranks
## 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
```

Nomor 6

```
idxPop <- order(murders$population)
my_df <- data.frame(states = negara[idxPop], ranks = ranks[idxPop])
my_df
```

```
##      states ranks
## 1      Wyoming 1
## 2 District of Columbia 2
## 3      Vermont 3
## 4    North Dakota 4
## 5      Alaska 5
## 6    South Dakota 6
## 7      Delaware 7
## 8      Montana 8
## 9    Rhode Island 9
## 10   New Hampshire 10
## 11      Maine 11
## 12      Hawaii 12
## 13      Idaho 13
## 14      Nebraska 14
## 15   West Virginia 15
## 16    New Mexico 16
## 17      Nevada 17
## 18      Utah 18
## 19      Kansas 19
## 20      Arkansas 20
## 21    Mississippi 21
## 22      Iowa 22
## 23    Connecticut 23
## 24      Oklahoma 24
## 25      Oregon 25
## 26      Kentucky 26
## 27      Louisiana 27
## 28   South Carolina 28
```

## 29	Alabama	29
## 30	Colorado	30
## 31	Minnesota	31
## 32	Wisconsin	32
## 33	Maryland	33
## 34	Missouri	34
## 35	Tennessee	35
## 36	Arizona	36
## 37	Indiana	37
## 38	Massachusetts	38
## 39	Washington	39
## 40	Virginia	40
## 41	New Jersey	41
## 42	North Carolina	42
## 43	Michigan	43
## 44	Georgia	44
## 45	Ohio	45
## 46	Pennsylvania	46
## 47	Illinois	47
## 48	New York	48
## 49	Florida	49
## 50	Texas	50
## 51	California	51

Nomor 7

```

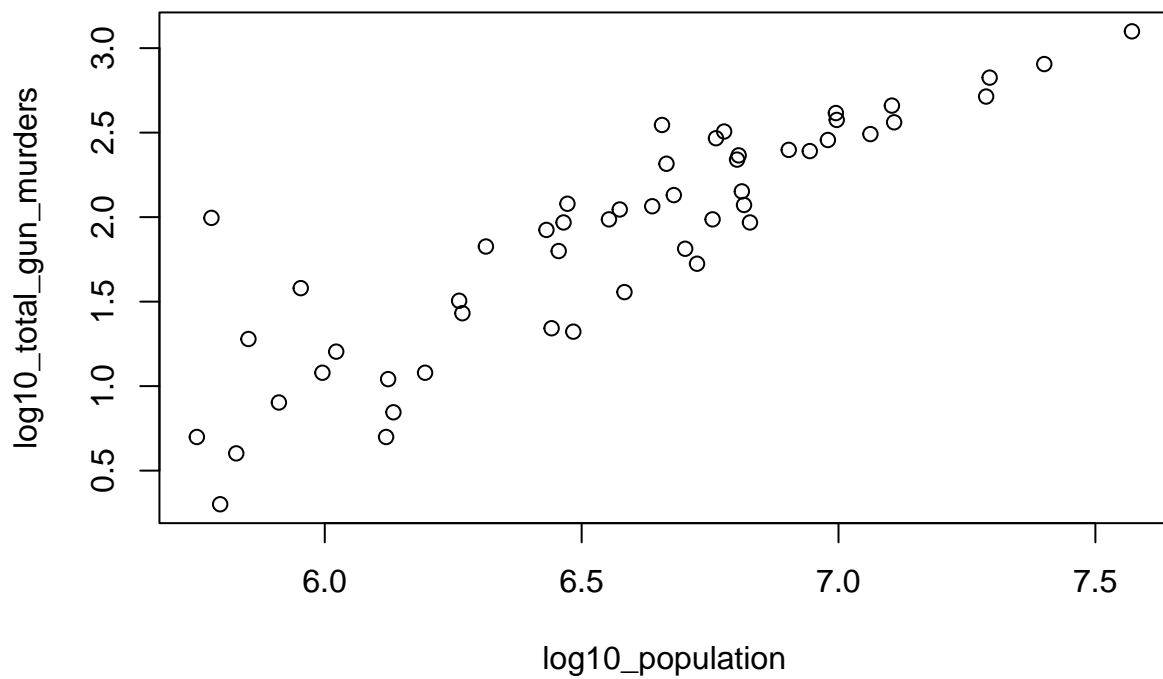
population_in_millions <- murders$population / 10 ^ 6
total_gun_murder <- murders$total

log10_population <- log10(murders$population)

log10_total_gun_murders <- log10(total_gun_murder)

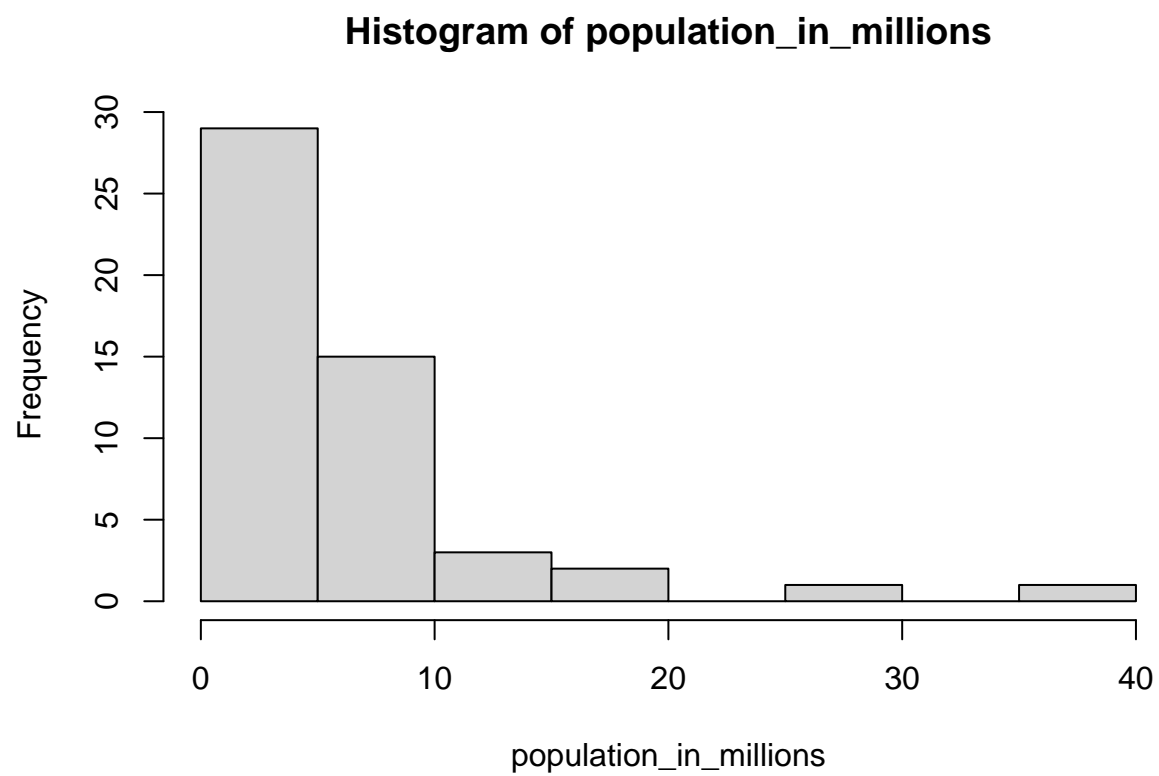
plot(log10_population, log10_total_gun_murders)

```



Nomor 8

```
hist(population_in_millions)
```



Nomor 9

```
boxplot(murders$population~murders$region)
```

