Latihan Modul 4

Nicholas Nanda S

11/3/2020

Deskripsi

Ini adalah dokumen R markdown, dibuat untuk menyelesaikan tugas praktikum data science latihan modul 4.

Import Library dan Dataset

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

1. Assign pop value

Menyimpan data populasi pada variable pop

```
pop <- murders$population
pop
```

```
##  [1]  4779736   710231  6392017  2915918 37253956  5029196  3574097   897934
##  [9]   601723 19687653  9920000  1360301  1567582 12830632  6483802  3046355
## [17]  2853118  4339367  4533372  1328361  5773552  6547629  9883640  5303925
## [25]  2967297  5988927   989415  1826341  2700551  1316470  8791894  2059179
## [33] 19378102  9535483   672591 11536504  3751351  3831074 12702379  1052567
## [41]  4625364   814180  6346105 25145561  2763885   625741  8001024  6724540
## [49]  1852994  5686986   563626
```

Sorting data populasi

```
popSort <- sort(pop)
```

Nilai populasi terkecil

```
popSort[1]
```

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

2. Indeks populasi terkecil

Menampilkan indeks tiap-tiap data populasi dan terurut dari yang terkecil

```
pop
```

```
##  [1]  4779736   710231  6392017  2915918 37253956  5029196  3574097   897934
##  [9]   601723 19687653  9920000  1360301  1567582 12830632  6483802  3046355
## [17]  2853118  4339367  4533372  1328361  5773552  6547629  9883640  5303925
## [25]  2967297  5988927   989415  1826341  2700551  1316470  8791894  2059179
## [33] 19378102  9535483   672591 11536504  3751351  3831074 12702379  1052567
## [41]  4625364   814180  6346105 25145561  2763885   625741  8001024  6724540
## [49]  1852994  5686986   563626
```

```
order(pop)
```

```
##  [1] 51  9 46 35  2 42  8 27 40 30 20 12 13 28 49 32 29 45 17  4 25 16  7 37 38
## [26] 18 19 41  1  6 24 50 21 26 43  3 15 22 48 47 31 34 23 11 36 39 14 33 10 44
## [51]  5
```

3. Fungsi which.min

Dengan menggunakkan fungsi which.min untuk membuat hasil seperti sebelumnya.

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

4. Nama Negara dengan Populasi terkecil

```
murders$state[minMurder]
```

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

5. Peringkat Populasi Negara

```
ranks <- rank(murders$population)
my_df <- data.frame(Nama = murders$state, Ranking = ranks)
head(my_df)
```

```
##         Nama Ranking
## 1    Alabama      29
## 2     Alaska       5
## 3    Arizona      36
## 4   Arkansas      20
## 5 California      51
## 6   Colorado      30
```

6. Peringkat Populasi Negara (terurut terkecil)

Mengulangi langkah sebelumnya untuk mengurutkan populasi negara dari yang terkecil

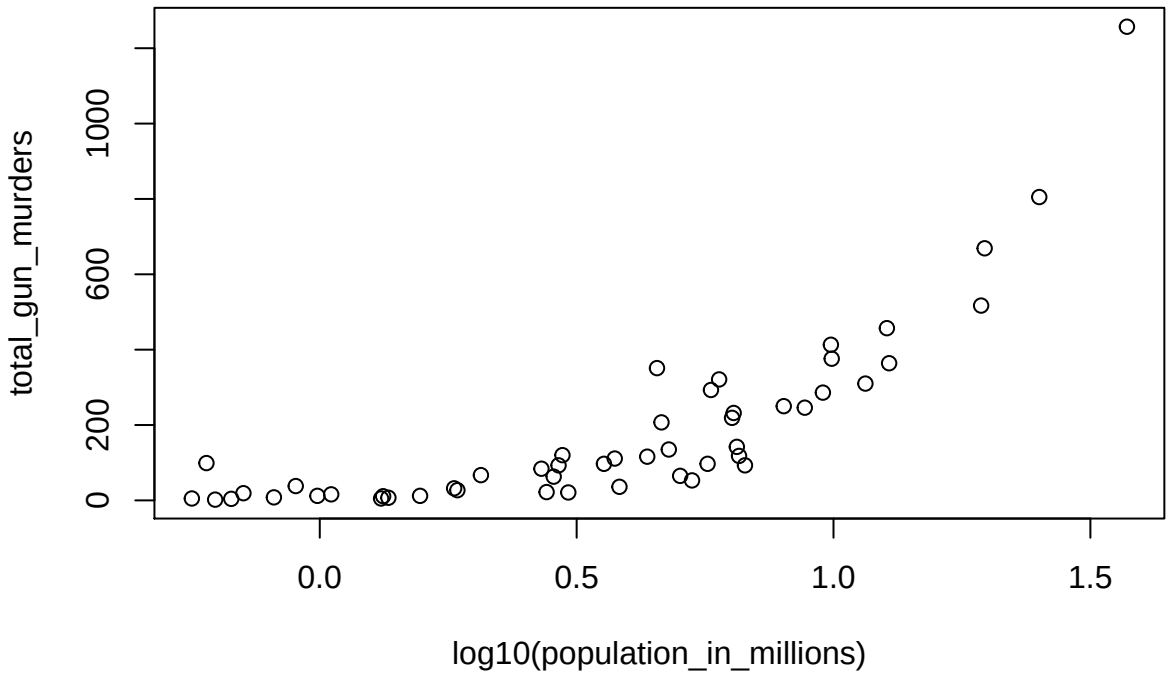
```
ranks <- rank(murders$population)
my_df <- data.frame(Nama = murders$state, Ranking = ranks)
ind <- order(my_df$Ranking)
my_df$Nama[ind]
```

```
##  [1] "Wyoming"              "District of Columbia" "Vermont"
##  [4] "North Dakota"         "Alaska"               "South Dakota"
##  [7] "Delaware"             "Montana"              "Rhode Island"
## [10] "New Hampshire"        "Maine"                "Hawaii"
## [13] "Idaho"                "Nebraska"             "West Virginia"
## [16] "New Mexico"           "Nevada"               "Utah"
## [19] "Kansas"               "Arkansas"             "Mississippi"
## [22] "Iowa"                 "Connecticut"          "Oklahoma"
## [25] "Oregon"               "Kentucky"             "Louisiana"
## [28] "South Carolina"       "Alabama"              "Colorado"
## [31] "Minnesota"            "Wisconsin"            "Maryland"
## [34] "Missouri"             "Tennessee"            "Arizona"
## [37] "Indiana"              "Massachusetts"        "Washington"
## [40] "Virginia"             "New Jersey"           "North Carolina"
## [43] "Michigan"             "Georgia"              "Ohio"
## [46] "Pennsylvania"         "Illinois"             "New York"
## [49] "Florida"              "Texas"                "California"
```

7. Visualisasi menggunakan Plot

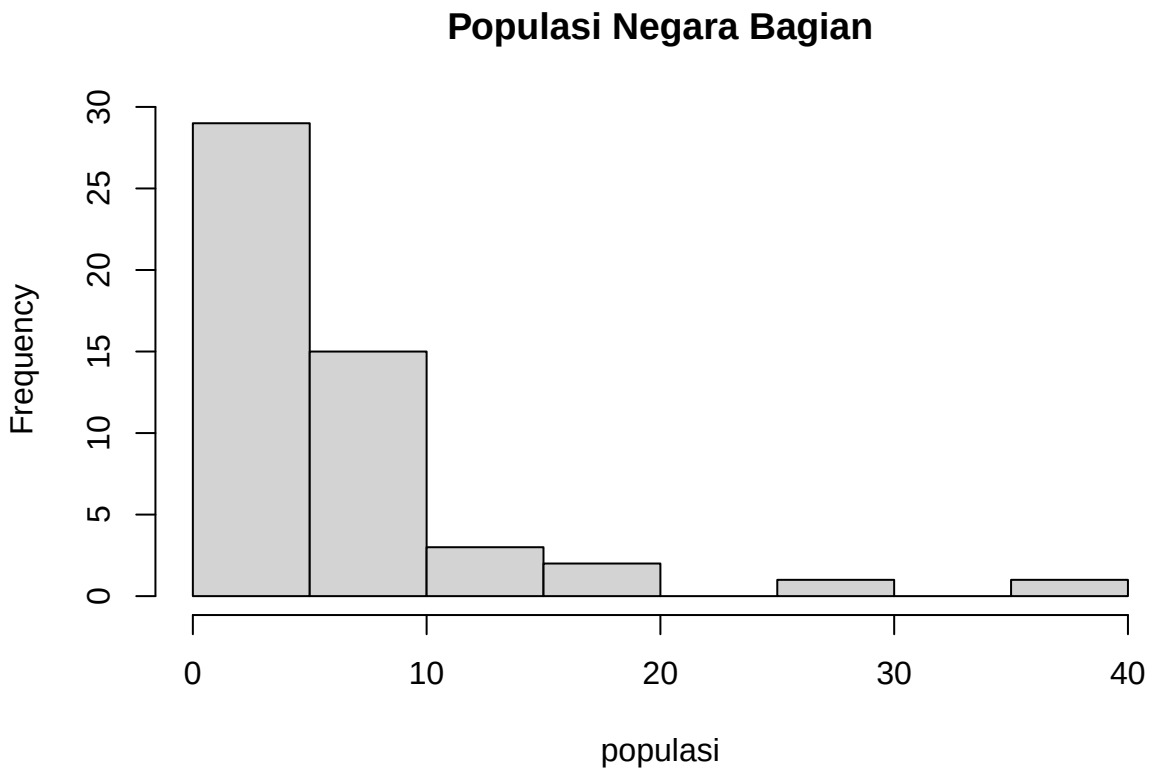
Analisis total pembunuhan dengan jumlah populasi.

```
population_in_millions <- murders$population/10^6
total_gun_murders <- murders$total
plot(log10(population_in_millions), total_gun_murders)
```



8. Histogram Populasi Negara Bagian

```
populasi <- with(murders, murders$population/10^6)
hist(populasi, main = "Populasi Negara Bagian")
```



9. Boxplot Populasi Negara Bagian/ wilayah

```
boxplot(population~region, data = murders)
```