Tugas Modul 3

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library(dslabs)  
data(murders)

## 1. Fungsi str

### a. Data murders memiliki 51 data di dalamnya

length(murders$state)

## [1] 51

### b. Data tidak hanya berisi tingkat pembunuhan pada 50 negara bagian dan DC

murders

## state abb region population total  
## 1 Alabama AL South 4779736 135  
## 2 Alaska AK West 710231 19  
## 3 Arizona AZ West 6392017 232  
## 4 Arkansas AR South 2915918 93  
## 5 California CA West 37253956 1257  
## 6 Colorado CO West 5029196 65  
## 7 Connecticut CT Northeast 3574097 97  
## 8 Delaware DE South 897934 38  
## 9 District of Columbia DC South 601723 99  
## 10 Florida FL South 19687653 669  
## 11 Georgia GA South 9920000 376  
## 12 Hawaii HI West 1360301 7  
## 13 Idaho ID West 1567582 12  
## 14 Illinois IL North Central 12830632 364  
## 15 Indiana IN North Central 6483802 142  
## 16 Iowa IA North Central 3046355 21  
## 17 Kansas KS North Central 2853118 63  
## 18 Kentucky KY South 4339367 116  
## 19 Louisiana LA South 4533372 351  
## 20 Maine ME Northeast 1328361 11  
## 21 Maryland MD South 5773552 293  
## 22 Massachusetts MA Northeast 6547629 118  
## 23 Michigan MI North Central 9883640 413  
## 24 Minnesota MN North Central 5303925 53  
## 25 Mississippi MS South 2967297 120  
## 26 Missouri MO North Central 5988927 321  
## 27 Montana MT West 989415 12  
## 28 Nebraska NE North Central 1826341 32  
## 29 Nevada NV West 2700551 84  
## 30 New Hampshire NH Northeast 1316470 5  
## 31 New Jersey NJ Northeast 8791894 246  
## 32 New Mexico NM West 2059179 67  
## 33 New York NY Northeast 19378102 517  
## 34 North Carolina NC South 9535483 286  
## 35 North Dakota ND North Central 672591 4  
## 36 Ohio OH North Central 11536504 310  
## 37 Oklahoma OK South 3751351 111  
## 38 Oregon OR West 3831074 36  
## 39 Pennsylvania PA Northeast 12702379 457  
## 40 Rhode Island RI Northeast 1052567 16  
## 41 South Carolina SC South 4625364 207  
## 42 South Dakota SD North Central 814180 8  
## 43 Tennessee TN South 6346105 219  
## 44 Texas TX South 25145561 805  
## 45 Utah UT West 2763885 22  
## 46 Vermont VT Northeast 625741 2  
## 47 Virginia VA South 8001024 250  
## 48 Washington WA West 6724540 93  
## 49 West Virginia WV South 1852994 27  
## 50 Wisconsin WI North Central 5686986 97  
## 51 Wyoming WY West 563626 5

### c. Data berisi Nama negara bagian, singkatan dari nama negara bagian, wilayah negara bagian, dan populasi negara bagian serta jumlah total pembunuhan pada tahun 2010.

str(murders)

## 'data.frame': 51 obs. of 5 variables:  
## $ state : chr "Alabama" "Alaska" "Arizona" "Arkansas" ...  
## $ abb : chr "AL" "AK" "AZ" "AR" ...  
## $ region : Factor w/ 4 levels "Northeast","South",..: 2 4 4 2 4 4 1 2 2 2 ...  
## $ population: num 4779736 710231 6392017 2915918 37253956 ...  
## $ total : num 135 19 232 93 1257 ...

### d. “str” tidak menunjukkan informasi yang relevan, namun menunjukkan struktur dati suatu data

str(murders)

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## $ region : Factor w/ 4 levels "Northeast","South",..: 2 4 4 2 4 4 1 2 2 2 ...  
## $ population: num 4779736 710231 6392017 2915918 37253956 ...  
## $ total : num 135 19 232 93 1257 ...

## 2. Nama kolom pada data frame adalah state, abb, region, population, dan total

str(murders)

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## $ abb : chr "AL" "AK" "AZ" "AR" ...  
## $ region : Factor w/ 4 levels "Northeast","South",..: 2 4 4 2 4 4 1 2 2 2 ...  
## $ population: num 4779736 710231 6392017 2915918 37253956 ...  
## $ total : num 135 19 232 93 1257 ...

## 3. Jenis class objek “a” adalah “character”

a = murders$abb  
class(a)

## [1] "character"

## 4. Jenis class objek “b” dan “a” adalah “character”

b <- murders$abb  
class(b)

## [1] "character"

## 5. Jumlah region yang dimiliki dataset

length(levels(murders$region))

## [1] 4

## 6. Jumlah state pada setiap region

table(murders$region)

##   
## Northeast South North Central West   
## 9 17 12 13