Tugas Modul 6

Rama Tri Agung / 123180053 / Praktikum Data Science B

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```
# import library and get data set
library(dplyr)
library(dslabs)
data(murders)
```

Manipulasi Data Frame

Nomor 1
```
murders <- mutate(murders, rate = total / population * 100000)
head(murders)

##          state abb region population total     rate
## 1      Alabama  AL  South    4779736   135 2.824424
## 2       Alaska  AK   West     710231    19 2.675186
## 3      Arizona  AZ   West    6392017   232 3.629527
## 4     Arkansas  AR  South    2915918    93 3.189390
## 5   California  CA   West   37253956  1257 3.374138
## 6     Colorado  CO   West    5029196    65 1.292453
```

Nomor 2
```
murders <- mutate(murders, rank = rank(desc(murders$rate)))
head(murders)

##          state abb region population total     rate rank
## 1      Alabama  AL  South    4779736   135 2.824424   23
## 2       Alaska  AK   West     710231    19 2.675186   27
## 3      Arizona  AZ   West    6392017   232 3.629527   10
## 4     Arkansas  AR  South    2915918    93 3.189390   17
## 5   California  CA   West   37253956  1257 3.374138   14
## 6     Colorado  CO   West    5029196    65 1.292453   38
```

Nomor 3
```
select(murders, state, abb) %>% head()

##          state abb
## 1      Alabama  AL
## 2       Alaska  AK
## 3      Arizona  AZ
## 4     Arkansas  AR
```

```
## 5  California  CA
## 6    Colorado  CO
```

Nomor 4

```
filter(murders, rank <= 5)

##                   state abb       region population total       rate rank
## 1 District of Columbia  DC         South     601723    99 16.452753    1
## 2            Louisiana  LA         South    4533372   351  7.742581    2
## 3             Maryland  MD         South    5773552   293  5.074866    4
## 4             Missouri  MO North Central    5988927   321  5.359892    3
## 5       South Carolina  SC         South    4625364   207  4.475323    5
```

Nomor 5

```
filter(murders, region == "Northeast" | region == "West", rate < 1) %>%
        select(state, rate, rank)

##            state      rate rank
## 1         Hawaii 0.5145920   49
## 2          Idaho 0.7655102   46
## 3          Maine 0.8280881   44
## 4 New Hampshire 0.3798036   50
## 5         Oregon 0.9396843   42
## 6           Utah 0.7959810   45
## 7        Vermont 0.3196211   51
## 8        Wyoming 0.8871131   43
```

Operator Pipe

Nomor 1

```
data(murders)
my_states <- murders %>%
        mutate(rate = total / population * 100000) %>%
        filter(region == "Northeast" | region == "East" | region == "West",
rate < 1) %>%
        select(state, region, rate)
my_states

##            state    region      rate
## 1         Hawaii      West 0.5145920
## 2          Idaho      West 0.7655102
## 3          Maine Northeast 0.8280881
## 4 New Hampshire Northeast 0.3798036
## 5         Oregon      West 0.9396843
## 6           Utah      West 0.7959810
## 7        Vermont Northeast 0.3196211
## 8        Wyoming      West 0.8871131
```