Tugas_Modul6

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1

```r
library(dplyr)

##
## Attaching package: 'dplyr'

## The following objects are masked from 'package:stats':
##
##     filter, lag

## The following objects are masked from 'package:base':
##
##     intersect, setdiff, setequal, union

library(dslabs)
data("murders")

murders <- mutate(murders, rate = total/population * 10^6 )
murders

##                    state abb        region population total        rate
## 1                Alabama  AL         South    4779736   135   28.244238
## 2                 Alaska  AK          West     710231    19   26.751860
## 3                Arizona  AZ          West    6392017   232   36.295273
## 4               Arkansas  AR         South    2915918    93   31.893901
## 5             California  CA          West   37253956  1257   33.741383
## 6               Colorado  CO          West    5029196    65   12.924531
## 7            Connecticut  CT     Northeast    3574097    97   27.139722
## 8               Delaware  DE         South     897934    38   42.319369
## 9   District of Columbia  DC         South     601723    99  164.527532
## 10               Florida  FL         South   19687653   669   33.980688
## 11               Georgia  GA         South    9920000   376   37.903226
## 12                Hawaii  HI          West    1360301     7    5.145920
## 13                 Idaho  ID          West    1567582    12    7.655102
## 14              Illinois  IL North Central   12830632   364   28.369608
## 15               Indiana  IN North Central    6483802   142   21.900730
## 16                  Iowa  IA North Central    3046355    21    6.893484
## 17                Kansas  KS North Central    2853118    63   22.081106
## 18              Kentucky  KY         South    4339367   116   26.732010
## 19             Louisiana  LA         South    4533372   351   77.425810
## 20                 Maine  ME     Northeast    1328361    11    8.280881
## 21              Maryland  MD         South    5773552   293   50.748655
```

```
## 22        Massachusetts MA       Northeast      6547629   118  18.021791
## 23             Michigan MI North Central      9883640   413  41.786225
## 24            Minnesota MN North Central      5303925    53   9.992600
## 25          Mississippi MS          South      2967297   120  40.440846
## 26             Missouri MO North Central      5988927   321  53.598917
## 27              Montana MT           West       989415    12  12.128379
## 28             Nebraska NE North Central      1826341    32  17.521372
## 29               Nevada NV           West      2700551    84  31.104763
## 30        New Hampshire NH       Northeast      1316470     5   3.798036
## 31           New Jersey NJ       Northeast      8791894   246  27.980319
## 32           New Mexico NM           West      2059179    67  32.537239
## 33             New York NY       Northeast     19378102   517  26.679599
## 34       North Carolina NC          South      9535483   286  29.993237
## 35         North Dakota ND North Central       672591     4   5.947151
## 36                 Ohio OH North Central     11536504   310  26.871225
## 37             Oklahoma OK          South      3751351   111  29.589340
## 38               Oregon OR           West      3831074    36   9.396843
## 39         Pennsylvania PA       Northeast     12702379   457  35.977513
## 40         Rhode Island RI       Northeast      1052567    16  15.200933
## 41       South Carolina SC          South      4625364   207  44.753235
## 42         South Dakota SD North Central       814180     8   9.825837
## 43            Tennessee TN          South      6346105   219  34.509357
## 44                Texas TX          South     25145561   805  32.013603
## 45                 Utah UT           West      2763885    22   7.959810
## 46              Vermont VT       Northeast       625741     2   3.196211
## 47             Virginia VA          South      8001024   250  31.246001
## 48           Washington WA           West      6724540    93  13.829942
## 49        West Virginia WV          South      1852994    27  14.571013
## 50            Wisconsin WI North Central      5686986    97  17.056487
## 51              Wyoming WY           West       563626     5   8.871131
```

```
x <-murders$rate
murders <- mutate(murders,ranking = rank(x))
murders
```

```
##                   state abb       region population total      rate
ranking
## 1              Alabama  AL        South    4779736   135  28.244238
29
## 2               Alaska  AK         West     710231    19  26.751860
25
## 3              Arizona  AZ         West    6392017   232  36.295273
42
## 4             Arkansas  AR        South    2915918    93  31.893901
35
## 5           California  CA         West   37253956  1257  33.741383
38
## 6             Colorado  CO         West    5029196    65  12.924531
14
## 7          Connecticut  CT    Northeast    3574097    97  27.139722
```

```
27
## 8            Delaware DE         South    897934  38  42.319369
46
## 9  District of Columbia DC         South    601723  99 164.527532
51
## 10            Florida FL         South  19687653 669  33.980688
39
## 11            Georgia GA         South   9920000 376  37.903226
43
## 12             Hawaii HI          West   1360301   7   5.145920
3
## 13              Idaho ID          West   1567582  12   7.655102
6
## 14           Illinois IL North Central  12830632 364  28.369608
30
## 15            Indiana IN North Central   6483802 142  21.900730
21
## 16               Iowa IA North Central   3046355  21   6.893484
5
## 17             Kansas KS North Central   2853118  63  22.081106
22
## 18           Kentucky KY         South   4339367 116  26.732010
24
## 19          Louisiana LA         South   4533372 351  77.425810
50
## 20              Maine ME     Northeast   1328361  11   8.280881
8
## 21           Maryland MD         South   5773552 293  50.748655
48
## 22      Massachusetts MA     Northeast   6547629 118  18.021791
20
## 23           Michigan MI North Central   9883640 413  41.786225
45
## 24          Minnesota MN North Central   5303925  53   9.992600
12
## 25        Mississippi MS         South   2967297 120  40.440846
44
## 26           Missouri MO North Central   5988927 321  53.598917
49
## 27            Montana MT          West    989415  12  12.128379
13
## 28           Nebraska NE North Central   1826341  32  17.521372
19
## 29             Nevada NV          West   2700551  84  31.104763
33
## 30      New Hampshire NH     Northeast   1316470   5   3.798036
2
## 31         New Jersey NJ     Northeast   8791894 246  27.980319
28
## 32         New Mexico NM          West   2059179  67  32.537239
```

```
37
## 33          New York  NY      Northeast   19378102  517  26.679599
23
## 34     North Carolina  NC          South    9535483  286  29.993237
32
## 35       North Dakota  ND North Central     672591    4   5.947151
4
## 36               Ohio  OH North Central   11536504  310  26.871225
26
## 37           Oklahoma  OK          South    3751351  111  29.589340
31
## 38             Oregon  OR           West    3831074   36   9.396843
10
## 39       Pennsylvania  PA      Northeast   12702379  457  35.977513
41
## 40       Rhode Island  RI      Northeast    1052567   16  15.200933
17
## 41     South Carolina  SC          South    4625364  207  44.753235
47
## 42       South Dakota  SD North Central     814180    8   9.825837
11
## 43          Tennessee  TN          South    6346105  219  34.509357
40
## 44              Texas  TX          South   25145561  805  32.013603
36
## 45               Utah  UT           West    2763885   22   7.959810
7
## 46            Vermont  VT      Northeast     625741    2   3.196211
1
## 47           Virginia  VA          South    8001024  250  31.246001
34
## 48         Washington  WA           West    6724540   93  13.829942
15
## 49      West Virginia  WV          South    1852994   27  14.571013
16
## 50          Wisconsin  WI North Central    5686986   97  17.056487
18
## 51            Wyoming  WY           West     563626    5   8.871131
9
```

```r
select(murders,state,abb)
```

```
##               state abb
## 1           Alabama  AL
## 2            Alaska  AK
## 3           Arizona  AZ
## 4          Arkansas  AR
## 5        California  CA
## 6          Colorado  CO
## 7       Connecticut  CT
```

```
## 8                   Delaware   DE
## 9   District of Columbia   DC
## 10               Florida   FL
## 11               Georgia   GA
## 12                Hawaii   HI
## 13                 Idaho   ID
## 14              Illinois   IL
## 15               Indiana   IN
## 16                  Iowa   IA
## 17                Kansas   KS
## 18              Kentucky   KY
## 19             Louisiana   LA
## 20                 Maine   ME
## 21              Maryland   MD
## 22         Massachusetts   MA
## 23              Michigan   MI
## 24             Minnesota   MN
## 25           Mississippi   MS
## 26              Missouri   MO
## 27               Montana   MT
## 28              Nebraska   NE
## 29                Nevada   NV
## 30         New Hampshire   NH
## 31            New Jersey   NJ
## 32            New Mexico   NM
## 33              New York   NY
## 34        North Carolina   NC
## 35          North Dakota   ND
## 36                  Ohio   OH
## 37              Oklahoma   OK
## 38                Oregon   OR
## 39          Pennsylvania   PA
## 40          Rhode Island   RI
## 41        South Carolina   SC
## 42          South Dakota   SD
## 43             Tennessee   TN
## 44                 Texas   TX
## 45                  Utah   UT
## 46               Vermont   VT
## 47              Virginia   VA
## 48            Washington   WA
## 49         West Virginia   WV
## 50             Wisconsin   WI
## 51               Wyoming   WY
```

```r
murders %>% filter( ranking > 46 & ranking <=51) %>% select(state)
```

```
##                  state
## 1 District of Columbia
## 2            Louisiana
```

```
## 3             Maryland
## 4             Missouri
## 5      South Carolina
```

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

```
## [1] state    rate     ranking
## <0 rows> (or 0-length row.names)
```

```r
data("murders")
my_states <- murders %>%
mutate(rate = total/population * 10^5, ranking = rank(rate)) %>%
 filter(region == "Northeast" | region == "West", rate < 1) %>%
 select(state,rate,ranking)
 my_states
```

```
##            state      rate ranking
## 1         Hawaii 0.5145920       3
## 2          Idaho 0.7655102       6
## 3          Maine 0.8280881       8
## 4 New Hampshire 0.3798036       2
## 5         Oregon 0.9396843      10
## 6           Utah 0.7959810       7
## 7        Vermont 0.3196211       1
## 8        Wyoming 0.8871131       9
```