Tugas Modul 7

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Import database “murders”

```
library(dslabs)
library(tibble)
library(tidyverse)
```

```
## -- Attaching packages --------------------------------------- tidyverse 1.3.2 --
## v ggplot2 3.3.6      v dplyr   1.0.10
## v tidyr   1.2.1      v stringr 1.4.1
## v readr   2.1.2      v forcats 0.5.2
## v purrr   0.3.4
## -- Conflicts ------------------------------------------ tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()    masks stats::lag()
```

```
data(murders)
```

MODUL 7

Soal Nomor 1

Konversi data “murders” dalam bentuk tibble dan menyimpannya dalam variabel bernama ‘murders_tibble’

```
murders_tibble <- as_tibble(murders)
murders_tibble
```

```
## # A tibble: 51 x 5
##    state                abb   region    population total
##    <chr>                <chr> <fct>          <dbl> <dbl>
##  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
## # ... with 41 more rows
```

Soal Nomor 2

Konversi data "murders" menjadi sebuah tibble yang dikelompokkan berdasarkan 'region' menggunakan fungsi group_by

```
murders_region <- as_tibble(murders %>% group_by(region))
murders_region
```

```
## # A tibble: 51 x 5
##    state                abb   region    population total
##    <chr>                <chr> <fct>          <dbl> <dbl>
##  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
## # ... with 41 more rows
```

Soal Nomor 3

Script tidyverse yang menghasilkan output yang sama seperti perintah berikut:

```
exp(mean(log(murders$population)))
```

```
## [1] 3675209
```

Menggunakan operator pipe serta dot operator

```
murders %>% .$population %>% log %>% mean %>% exp
```

```
## [1] 3675209
```

Soal Nomor 4

Membuat data frame yang terdiri dari tiga kolom: 'n', 's_n', 's_n_2' dengan isi kolom sesuai dengan soal latihan

```
compute_s_n <- function(n){
  x<-1:n
  tibble(n = n,
         s_n = sum(x),
         s_n_2 = sum(x)^2
         )
```

```
}
n <- 1:100
hasil <- map_df(n, compute_s_n)
hasil
```

```
## # A tibble: 100 x 3
##        n   s_n s_n_2
##    <int> <int> <dbl>
##  1     1     1     1
##  2     2     3     9
##  3     3     6    36
##  4     4    10   100
##  5     5    15   225
##  6     6    21   441
##  7     7    28   784
##  8     8    36  1296
##  9     9    45  2025
## 10    10    55  3025
## # ... with 90 more rows
```