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11/8/2021

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

```
## -- Attaching packages --------------------------------------- tidyverse 1.3.1 --

## v ggplot2 3.3.5     v purrr   0.3.4
## v tibble  3.1.4     v dplyr   1.0.7
## v tidyr   1.1.4     v stringr 1.4.0
## v readr   2.0.2     v forcats 0.5.1

## -- Conflicts ------------------------------------------ tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()    masks stats::lag()
```

```
library(dplyr)
library(purrr)
data(murders)
```

1. 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
```

2.Tibble yang dikelompokkan berdasarkan region

```
murders_tibble %>% group_by(region)
```

```
## # A tibble: 51 x 5
## # Groups:   region [4]
##    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
```

3. Script tidyverse dari exp(mean(log(murders$population)))

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

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

4.data frame tiga kolom

```
compute_s_n <- function(n){
 hasil <- sum(1:n)

 tibble(
   n = n,
   s_n = hasil,
   s_n_2 = ""
   )
}
```

```
n <-1:100
result <- map_df(n, compute_s_n)
result$s_n_2[1] = "1"
for (i in 2:100) {
    result$s_n_2[i] = paste(result$s_n_2[i-1], i, sep = "+")
}

for (i in 2:100) {
   result$s_n_2[i] = paste(result$s_n[i], result$s_n_2[i], sep = " -> ")
}
result
```

```
## # A tibble: 100 x 3
##       n   s_n s_n_2
##    <int> <int> <chr>
```

```
##  1     1     1 1
##  2     2     3 3 -> 1+2
##  3     3     6 6 -> 1+2+3
##  4     4    10 10 -> 1+2+3+4
##  5     5    15 15 -> 1+2+3+4+5
##  6     6    21 21 -> 1+2+3+4+5+6
##  7     7    28 28 -> 1+2+3+4+5+6+7
##  8     8    36 36 -> 1+2+3+4+5+6+7+8
##  9     9    45 45 -> 1+2+3+4+5+6+7+8+9
## 10    10    55 55 -> 1+2+3+4+5+6+7+8+9+10
## # ... with 90 more rows
```