Modul5

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```
library(dslabs)
data(murders)
View(murders)
```

Tugas Modul 5

Nomor 1

```
murders$state
```

```
##  [1] "Alabama"              "Alaska"               "Arizona"
##  [4] "Arkansas"             "California"           "Colorado"
##  [7] "Connecticut"          "Delaware"             "District of Columbia"
## [10] "Florida"              "Georgia"              "Hawaii"
## [13] "Idaho"                "Illinois"             "Indiana"
## [16] "Iowa"                 "Kansas"               "Kentucky"
## [19] "Louisiana"            "Maine"                "Maryland"
## [22] "Massachusetts"        "Michigan"             "Minnesota"
## [25] "Mississippi"          "Missouri"             "Montana"
## [28] "Nebraska"             "Nevada"               "New Hampshire"
## [31] "New Jersey"           "New Mexico"           "New York"
## [34] "North Carolina"       "North Dakota"         "Ohio"
## [37] "Oklahoma"             "Oregon"               "Pennsylvania"
## [40] "Rhode Island"         "South Carolina"       "South Dakota"
## [43] "Tennessee"            "Texas"                "Utah"
## [46] "Vermont"              "Virginia"             "Washington"
## [49] "West Virginia"        "Wisconsin"            "Wyoming"
```

```
new_names <- vector("numeric", 51)
for (i in 1:51) {
  x<-c(murders$state[i])
  if(nchar(x)>8){
  new_names[i]<-murders$abb[i]

  }else{
    new_names[i]<-murders$state[i]
  }
}
print(new_names)
```

```
##  [1] "Alabama"  "Alaska"   "Arizona"  "Arkansas" "CA"       "Colorado"
##  [7] "CT"       "Delaware" "DC"       "Florida"  "Georgia"  "Hawaii"
## [13] "Idaho"    "Illinois" "Indiana"  "Iowa"     "Kansas"   "Kentucky"
## [19] "LA"       "Maine"    "Maryland" "MA"       "Michigan" "MN"
## [25] "MS"       "Missouri" "Montana"  "Nebraska" "Nevada"   "NH"
## [31] "NJ"       "NM"       "New York" "NC"       "ND"       "Ohio"
## [37] "Oklahoma" "Oregon"   "PA"       "RI"       "SC"       "SD"
## [43] "TN"       "Texas"    "Utah"     "Vermont"  "Virginia" "WA"
## [49] "WV"       "WI"       "Wyoming"
```

Nomor 2

```
hitung<-function(n){
  x<-1:n
  sum(x)
}
n<-5000
hitung(n)
```

```
## [1] 12502500
```

Nomor 3

```
compute_s_n <- function(n){
  x <- 1:n
  y <- x^2
  sum(y)
}
n <- 10
compute_s_n(n)
```

```
## [1] 385
```

Nomor 4

```
m <- 25
s_n <- vector("numeric", 25)
for (n in 1:m) {
  s_n[n] <- compute_s_n(n)
}
print(s_n)
```

```
##  [1]    1    5   14   30   55   91  140  204  285  385  506  650  819 1015 1240
## [16] 1496 1785 2109 2470 2870 3311 3795 4324 4900 5525
```

Nomor 5

```
n <- 1: 25
s_n <- sapply(n, compute_s_n)
s_n
```

```
##  [1]    1    5   14   30   55   91  140  204  285  385  506  650  819 1015 1240
## [16] 1496 1785 2109 2470 2870 3311 3795 4324 4900 5525
```