# Tugas Modul 4

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1/10/2021

### nomor 1

```
library(dslabs)
data(murders)
a =sort(murders$population)
pop = min(a)
pop
```

### nomor 2

```
indeks <- order(pop)
indeks
```

### nomor 3

murders$population[which.min(murders$population)]

### nomor 4

```
i_min <- which.min(murders$population)
murders$state[i_min]
```

### nomor 5

```
population <- c(murders$population)
state <- c(murders$state)
my_df <- data.frame(state,population)
rank(my_df)
```

### nomor 6

```
ind <- order(rank(my_df))
ind
```

### nomor 7

```
population_in_millions <- murders$population/10^6
total_gun_murders <- murders$total
x = transform(log(population_in_millions))
y = transform(log(total_gun_murders))
plot(x,y)
```

### nomor 8

```
population <- with(murders, total / population * 100000)
hist(population)
```

### nomor 9

```
murders$rate <- with(murders, total / population * 100000)
boxplot(rate~region, data = murders)
```