

Tugas Modul 3

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11/2/2020

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

1. Fungsi str

a. Data murders memiliki 51 data di dalamnya

```
length(murders$state)
```

```
## [1] 51
```

b. Data tidak hanya berisi tingkat pembunuhan pada 50 negara bagian dan DC

`murders`

```
##           state abb      region population total
## 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
## 11      Georgia GA      South   99200000    376
## 12      Hawaii  HI      West    1360301      7
## 13      Idaho   ID      West    1567582     12
## 14     Illinois IL North Central 12830632    364
## 15     Indiana  IN North Central  6483802    142
## 16      Iowa    IA North Central  3046355     21
## 17     Kansas  KS North Central  2853118     63
## 18     Kentucky KY      South    4339367    116
## 19    Louisiana LA      South    4533372    351
## 20      Maine   ME     Northeast  1328361     11
## 21     Maryland MD      South    5773552    293
## 22  Massachusetts MA     Northeast  6547629    118
```

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

c. Data berisi Nama negara bagian, singkatan dari nama negara bagian, wilayah negara bagian, dan populasi negara bagian serta jumlah total pembunuhan pada tahun 2010.

```
str(murders)
```

```
## 'data.frame':   51 obs. of  5 variables:
## $ state      : chr  "Alabama" "Alaska" "Arizona" "Arkansas" ...
## $ abb        : chr  "AL" "AK" "AZ" "AR" ...
## $ region     : Factor w/ 4 levels "Northeast","South",...: 2 4 4 2 4 4 1 2
## $ population: num  4779736 710231 6392017 2915918 37253956 ...
## $ total      : num  135 19 232 93 1257 ...
```

d. “str” tidak menunjukkan informasi yang relevan, namun menunjukkan struktur dari suatu data

```
str(murders)
```

```
## 'data.frame': 51 obs. of 5 variables:
## $ state : chr "Alabama" "Alaska" "Arizona" "Arkansas" ...
## $ abb : chr "AL" "AK" "AZ" "AR" ...
## $ region : Factor w/ 4 levels "Northeast","South",...: 2 4 4 2 4 4 1 2
2 2 ...
## $ population: num 4779736 710231 6392017 2915918 37253956 ...
## $ total : num 135 19 232 93 1257 ...
```

2. Nama kolom pada data frame adalah state, abb, region, population, dan total

```
str(murders)
```

```
## 'data.frame': 51 obs. of 5 variables:
## $ state : chr "Alabama" "Alaska" "Arizona" "Arkansas" ...
## $ abb : chr "AL" "AK" "AZ" "AR" ...
## $ region : Factor w/ 4 levels "Northeast","South",...: 2 4 4 2 4 4 1 2
2 2 ...
## $ population: num 4779736 710231 6392017 2915918 37253956 ...
## $ total : num 135 19 232 93 1257 ...
```

3. Jenis class objek “a” adalah “character”

```
a = murders$abb
```

```
class(a)
```

```
## [1] "character"
```

4. Jenis class objek “b” dan “a” adalah “character”

```
b <- murders$abb
```

```
class(b)
```

```
## [1] "character"
```

5. Jumlah region yang dimiliki dataset

```
length(levels(murders$region))
```

```
## [1] 4
```

6. Jumlah state pada setiap region

```
table(murders$region)

##
## Northeast South North Central West
##          9      17      12      13
```