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Lab: L49+L50

WEEK-1

EXERCISE: BASICS OF R

CODE:

1.

```
> a= 10
> class(a)
[1] "numeric"
```

A variable ‘a’ is initialised to value 10. Class() function is used to see the data type of a given
Variable

2.

```
> a=as.character(a)
> print(a)
[1] "10"
> class(a)
[1] "character"
```

The as.character() function converts the data type of a variable to character dat atype. The output and class after conversion is seen in the above output.

3.

```
> vec1 = c(1,2,3,4)
> vec2= c("a","b","c",NA)
> length(vec1)
[1] 4
> length(vec2)
[1] 4
```

#We can create vectors using the c() function.

4.

```
> library(datasets)
```

This function is used to initialize data-frames from the pre-existing datasets.

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5.

```
> class(trees)
[1] "data.frame"
```

The class() function is used to find the class of
the object/dataset.

6.

```
> sapply(trees,class)
   Girth    Height    Volume
"numeric" "numeric" "numeric"
```

This function is used to get the classes of all the columns in the dataset.

7.

```
> str(trees)
'data.frame':       31 obs. of  3 variables:
 $ Girth : num  8.3 8.6 8.8 10.5 10.7 10.8 11 11 11.1 11.2 ...
 $ Height: num  70 65 63 72 81 83 66 75 80 75 ...
 $ Volume: num  10.3 10.3 10.2 16.4 18.8 19.7 15.6 18.2 22.6 19.9 ...
```

The str() function displays the structure of the dataset.

8.

```
> summary(trees)
     Girth           Height       Volume
 Min.   : 8.30   Min.   :63   Min.   :10.20
 1st Qu.:11.05   1st Qu.:72   1st Qu.:19.40
 Median :12.90   Median :76   Median :24.20
 Mean   :13.25   Mean   :76   Mean   :30.17
 3rd Qu.:15.25   3rd Qu.:80   3rd Qu.:37.30
 Max.   :20.60   Max.   :87   Max.   :77.00
```

The summary() function gives the summary of the given dataset. The summary consists of the statistical aspects of each the columns in the dataset.

9.

```
> head(trees)
  Girth Height Volume
1   8.3     70   10.3
2   8.6     65   10.3
```

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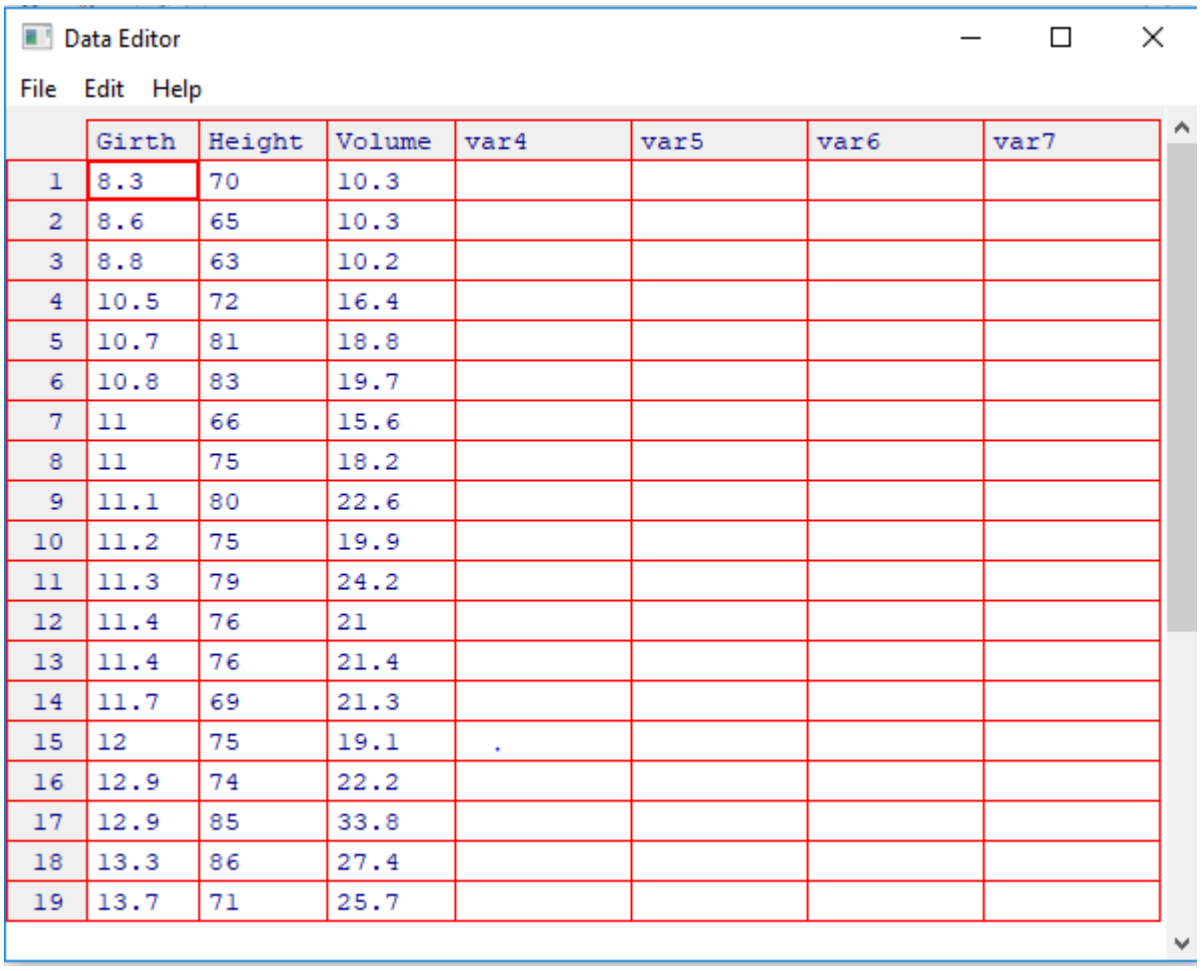
3 8.8 63 10.2
4 10.5 72 16.4
5 10.7 81 18.8
6 10.8 83 19.7

10.

```
> fix(trees)
```

#The fix() function gives the spreadsheet view or the grid view of the dataset.



	Girth	Height	Volume	var4	var5	var6	var7
1	8.3	70	10.3				
2	8.6	65	10.3				
3	8.8	63	10.2				
4	10.5	72	16.4				
5	10.7	81	18.8				
6	10.8	83	19.7				
7	11	66	15.6				
8	11	75	18.2				
9	11.1	80	22.6				
10	11.2	75	19.9				
11	11.3	79	24.2				
12	11.4	76	21				
13	11.4	76	21.4				
14	11.7	69	21.3				
15	12	75	19.1				
16	12.9	74	22.2				
17	12.9	85	33.8				
18	13.3	86	27.4				
19	13.7	71	25.7				

11.

```
> rownames(trees)
```

```
 [1] "1"  "2"  "3"  "4"  "5"  "6"  "7"  "8"  "9"  "10"
[11] "11" "12" "13" "14" "15" "16" "17" "18" "19" "20"
[21] "21" "22" "23" "24" "25" "26" "27" "28" "29" "30"
[31] "31"
```

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#The rownames() function displays the names of the rows. Since in this dataset t he row names are the serial numbers, that is why numbers are displayed.

12.

```
> colnames(trees)
[1] "Girth"  "Height" "Volume"
```

#This function gives the names of the columns of the dataset.

13.

```
> nrow(trees)
[1] 31
```

#This function displays the number of rows in the dataset.

14.

```
> ncol(trees)
[1] 3
```

#This function displays the number of columns in the dataset.

15.

```
> View(trees)
```

This function displays the dataset.