

LAB

STATISTICS WITH R PROGRAMMING FOR VISUALIZATION

COURSE CODE: ITA0435

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1. Create numeric, character, and logical vectors and display type and content.

CODE:

```
num_vec <- c(10, 20, 30)
```

```
char_vec <- c("A", "B", "C")
```

```
log_vec <- c(TRUE, FALSE, TRUE)
```

```
print(num_vec)
```

```
print(char_vec)
```

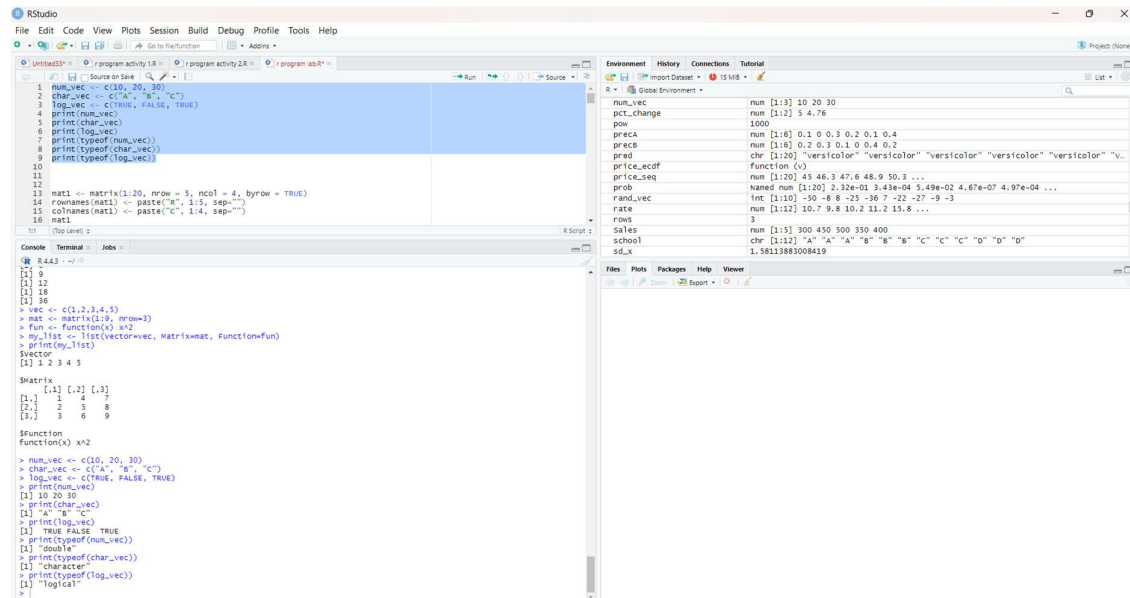
```
print(log_vec)
```

```
print(typeof(num_vec))
```

```
print(typeof(char_vec))
```

```
print(typeof(log_vec))
```

OUTPUT:



The screenshot displays the RStudio interface. The source editor on the left contains the following R code:

```
1 num_vec <- c(10, 20, 30)
2 char_vec <- c("A", "B", "C")
3 log_vec <- c(TRUE, FALSE, TRUE)
4 print(num_vec)
5 print(char_vec)
6 print(log_vec)
7 print(typeof(num_vec))
8 print(typeof(char_vec))
9 print(typeof(log_vec))
10
11
12
13 mat1 <- matrix(1:20, nrow = 5, ncol = 4, byrow = TRUE)
14 rownames(mat1) <- paste("R", 1:5, sep="")
15 colnames(mat1) <- paste("C", 1:4, sep="")
16 mat1
```

The console on the bottom left shows the output of the code:

```
[1] 10
[1] 20
[1] 30
[1] 18
[1] 36
> vec <- c(1,2,3,4,5)
> mat <- matrix(1:5, nrow=3)
> fun <- function(x) x^2
> my_list <- list(vector=vec, matrix=mat, function=fun)
> print(my_list)
list
  $vector
[1] 1 2 3 4 5

  $matrix
      [,1] [,2] [,3]
[1,] 1    2    3
[2,] 2    5    8
[3,] 3    6    9

  $function
function(x) x^2

> num_vec <- c(10, 20, 30)
> char_vec <- c("A", "B", "C")
> log_vec <- c(TRUE, FALSE, TRUE)
> print(num_vec)
[1] 10 20 30
> print(char_vec)
[1] "A" "B" "C"
> print(log_vec)
[1] TRUE FALSE TRUE
> print(typeof(num_vec))
[1] "double"
> print(typeof(char_vec))
[1] "character"
> print(typeof(log_vec))
[1] "logical"
>
```

The Environment pane on the right lists the objects created in the workspace:

- num_vec: num [1:3] 10 20 30
- pct_change: num [1:2] 5 4.76
- pow: num [1:6] 0.1 0.3 0.2 0.1 0.4
- preca: num [1:6] 0.2 0.3 0.1 0.4 0.2
- precB: num [1:6] 0.2 0.3 0.1 0.4 0.2
- pred: chr [1:20] "versicolor" "versicolor" "versicolor" "v."
- price_ecdf: function ()
- price_seq: num [1:20] 45 46.3 47.6 48.9 50.3 ...
- prob: Named num [1:20] 2.32e-01 3.43e-04 5.49e-02 4.67e-07 4.97e-04 ...
- rand_vec: int [1:10] -50 -8 8 -25 -36 7 -22 -27 -9 -3
- rate: num [1:12] 10.7 9.8 10.2 11.2 15.8 ...
- rows: num [1:5] 300 450 500 350 400
- Sales: chr [1:12] "A" "A" "A" "B" "B" "C" "C" "C" "D" "D" "D"
- school: num [1:12] 1.58113883008419
- sd_x: num [1:12] 1.58113883008419