

## Assignment 4

Use the R to answer the following questions:

1. Vector creation Write R code to generate the following vectors, explore the functions `seq()` and `rep()` using the help on commands:

- 1.3 1.6 1.9 2.2 2.5 2.8 3.1 3.4 3.7 4.0 4.3 4.6 4.9
- 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4
- 14 12 10 8 6 4 2 0
- 5 5 12 12 13 13 20 20

2. Loading and exploring data structure Load the iris data that R provides internally by typing `data(iris)`

A. What sort of data type is `iris`?

B. How many rows (observations) and columns (variables) does the iris dataset have?

C. Which variable of the data frame `iris` is a factor and how many levels does it have?

Select one:

- (a) The variable `Species` is a factor and it has 5 levels.
- (b) The variable `Species` is a factor and it has 3 levels.
- (c) The variable `'data.frame'` is a factor and it has 150 levels.
- (d) The variable `'data.frame'` is a factor and it has 5 levels.

3. Explore dataset- `mtcars` in R.

You can get the structure and column names of data by typing the command `str(mtcars)` and `names(mtcars)` respectively. Write your code to subset the dataset- `mtcars` according to the following requirements (NOTE: each requirement is independent.)

A. Select cars whose `cyl` (a column in the dataset) value is no smaller than 5.

B. Show all the fields (columns) of the first 10 cars.

C. Find all cars matching "Honda".