

Software Tools, R - Homework3

Due date : 25 Dec 2020, 23:59

Objectives

- Function
 - Condition Statments
 - Loops
-

Questions

1 - A dependent function chain is defined as $h(x) = \frac{\log(x)-1}{\sqrt{x}}$, $g(x) = e^{\sqrt{h(x)}}$ and $f(x) = \sin(x)^{\cos(g(x))}$. Create a function and solve $f(x)$ for each $\mathbf{x} <- 4:250$. Print and **plot** $f(x)$.

```
my_fun <- function() {  
  x <- 4:250  
  
  # Fill here  
  
  plot(fx)  
}
```

2 - Create a function. Inside;

- Create **n** sizes random **x** vector which starts with minimum (**min**) and ends maximum (**max**) values
- Define a **threshold**. (for example: `my_threshold <- 500`)
- Find how many values in **x** vector are greater than the threshold. (you can assign as **big_numbers**)
- If there are no any **big_numbers**, print a sentence like ‘There is no big number’
- Else print the size (or lenght) of **big_numbers**

```
my_num <- function(n, min, max, threshold) {

# x <- runif(n,min,max)      # You can use runif() function or different function

# big_numbers <- (you can use this to find which values are bigger than threshold: (x > threshold) )

# if

# else

}
```

3 - Create a function that calculates the sum of each digit of any number (*For instance, sum of digits of 385102 is $3 + 8 + 5 + 1 + 2 = 19$*). While sum is lower than 50, then add 10 to sum in a loop. In every loop, print a warning sentence.

```
sumofdig <- function(x) {

# You can use strsplit() function
# sum <-

# while ( ) {
#
# print("sum is lower than 50, so I am going to add more 10")
#
# }

}
```

For questions or problems, please use Ninova

I inspired from Ismail SEZEN
