

# STAT 471: Programming Assignment 1

Due: September 6, 2025 at 11:59pm

## 1 Instructions

Please make sure to submit your solutions to the following questions in an .rmd file and a knitted .html file format (or you can use an .nb.html if you'd like).

## 2 Question 1 (50 points)

In a single code block, write an R code that includes a for loop to calculate the first 10 numbers of the Fibonacci sequence. *Hint:* The first two numbers are 0 and 1, so store these values as variables first.

Your output should look something like this:

```
0 1 1 2 3 5 8 13 21 34
```

## 3 Question 2 (50 points)

In a single code block, create a vector with 10 numbers of your choice using `c()`. Calculate the:

- (a) mean
- (b) median
- (c) variance
- (d) standard deviation
- (e) minimum
- (f) maximum

of the vector. You may use built-in functions to calculate (a)-(f) for this exercise. Rounding is *optional*, but if you want to round your answers to two decimal places, use the built-in function `round(x, 2)` where `x` is what you want to round. Here's an example:

```
mean_vec = round(mean(in_vec), 2)
```

An example of the input your function should take and the respective output is given below:

Input: 41 33 22 29 39 40 23 20 31 2

Output: 28 30 141.111111111111 11.8790197874703 2 41