Faculty of Computing

Year 2 Semester 1 (2025)

IT2120 - Probability and Statistics

Lab Sheet 02

Without using R, determine the result of the following computation.

x ¡- c(1, 2, 3) x[1] / x[2]ˆ3 - 1 + 2 * x[3] - x[2 - 1]

```
> x<-c(1,2,3)
> x[1]/x[2]^3-1+2*x[3]-x[2-1]
[1] 4.125
```

Consider vector 1: 15. Write R command that determines how many elements in the vector are exactly divisible by 3.

```
> v <- c(1:15)
> sum(v%%3 == 0)
[1] 5
```

Write a loop structure to scan through an integer vector to determine the index of the maximum value.

```
> vector <- c(10, 3, 7, 25, 18)
> max_index <- 1
> max_value <- vector[1]
> for (i in 2:length(vector)) {
+   if (vector[i] > max_value) {
+     max_value <- vector[i]
+     max_index <- i
+   }
+ }
> max_index
[1] 4
```

Do the question 03 without using a loop

```
> vector <- c(10,3,7,25,18)
> max_index <- which.max(vector)
> max_index
[1] 4
```