***Tutorial 5– Functions***

1. Write a program which accepts the radius of a circle from the user. Then, calculate the diameter, circumference, or area of a circle based on user’s choice. Develop a function to perform the calculation.

*Formula: diameter [2 \* radius] ; circumference [2 pi \* radius] ; area [pi\* radius2]*

**Sample input-output:**

Enter value for radius (cm): **10**

Calculate:

1. rea

(C)ircumference

(D)iameter

Option: A

The area of the circle in cm is 314.2

1. Write a program using functions to reverse the digits of integer numbers stored in a vector. **Hint**: use *sample* or *seq* to generate the numbers. (123->321)
2. Write a program to return how many negative and non-negative values in a matrix.
3. Use the concept of functions to write a program to calculate the factorial of an integer.

Formula: 4! = 1\*2\*3\*4

**Sample input-output:**

Enter an integer: 7

7! = 5040