

# Data Structures and Algorithms IT2070

Year two Semester two 2020

Online Examination

Sri Lanka Institute of Information Technology

Time: 30 minutes

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## Paper Number 0 (20 marks)

A recursive algorithm for the calculation for the multiplication of two numbers M and n is given below:

```
Multiply (M,n)

if (n = 1)
    return M;

else
    return (M + Multiply(M, n-1))
```

- Write a program in Python to read an integers from the keyboard for M and n.
- Develop a function in python named as multiply and implement the above recursive algorithm.
- Pass the input number as parameter to the function developed and get the multiplication of numbers as output.
- Use the loop to run the program and display the correct output until user input -1.

**Upload your answer using given template to the course web link “Paper Number 0”**

## Grading Sheet:

- 1) Program is compiling. **2 marks**
- 2) Program is running successfully. **2 marks**
- 3) Program takes the input number as integer. **2 marks**
- 4) Correct implementation multiply function. **6 marks**
- 5) Display the output correctly **2 marks**
- 6) Use of loop correctly **4 marks**
- 7) Include comments and properly indented. **2 marks**
- 8) Plagiarism testing tool results:.....