# Lab Four

ID1303: Introduction to Programming

1. Write a program to accept a positive integer $n$ and do each of the following.

   (a) Print $n$ consecutive $*$ on a line. For example, if $n = 5$, the output is: *****

   (b) Print all the square numbers in the interval $[1, n]$. For example, if $n = 50$, then the output is 1,4,9,16,25,36,49.

   (c) Print the value of $n!$.

   (d) Accept $n$ numbers from the user and print their sum.

2. Write a program to accept a positive integer $n$ and do the following.

   (a) Print the decimal and binary representations from right-to-left. For example, if $n = 20$, the output is 02 on the first line and 00101 on the second line.

   (b) *Optional:* Print the binary representation from left-to-right.

3. Accept a real number $x$ and find the values of each of $e^x, \log x, \sin x$ by adding the first 20 terms of the appropriate Taylor series. Compare the values with the values from the in-built functions from math.h.

4. *[Optional]* Accept a positive integer $n$ and print $n$ consecutive lines of stars, with the $i$th line having $i$ stars. Example output for $n = 5$:

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