

CENG111 Computer Programming I

Labwork 11

1. Write a program to apply bitwise AND operation on range of integer pairs of 1 to 10. Use a function that receives two integers and returns their bitwise AND operation result to the calling function.

```
1 & 1 is 1
1 & 2 is 0
...
5 & 5 is 5
5 & 6 is 4
...
10 & 9 is 8
10 & 10 is 10
```

2. Write function f1() that accepts a positive integer N and determines the sum $1 + 2 + 3 + \dots + N$ and displays this sum. Write function f2() that accepts a positive integer N and determines N! and displays this factorial. Write function f3() that accepts an integer and outputs “Undefined” if that integer is negative. Main program will input integers until user inputs “n” or “N”. It will display the value of F according to the value of the input value.

$$f(N) = \begin{cases} N!, & \text{if } 0 \leq N \leq 5 \\ 1 + 2 + 3 + \dots + N, & \text{if } N > 5 \\ Undefined, & \text{if } N < 0 \end{cases}$$

3. Write a program to input an integer from user that represents height of a triangle and draw a triangle of the specified height with even numbers starting from 0 as given in the sample run. Use function printTriangle() that inputs an integer that represents side of a triangle then, displays a triangle with the specified height.

```
Input height: 3
0 2 4 6 8
 0 2 4
   0
```