LAB-5

OBJECT ORIENTED PROGRAMMING

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Recursion Tasks

Q#1(a)

Write an iterative function factorial that takes an integer as argument and returns its factorial.
Hint: Factorial(x) = x * (x - 1) * (x - 2)...*1

Q#1(b)

Rewrite the solution to the problem in Task 1 using recursion.

Q#2(a)

Write an iterative function CountOnes that receives an integer n as argument and returns the number of ones (1s) in the binary representation of n.

Q#2(b)

Rewrite the solution to the problem in Task 2 using recursion.

Q#3(a)

Write an iterative function FindSum that takes an integer n and returns the sum of numbers from 1 to n.

Q#3(b)

Rewrite the solution to the problem in Task 3 using recursion.

Q#4(a)

Write an iterative function DecimalToOctal that receives an integer n as argument and returns the sum of digits greater or equal to 5 in the octal representation of n.

Examples are:

DecimalToOctal (55) will return 13 // (55)10 = (67)8

DecimalToOctal (92) will return 0 // (92)10 = (134)8

Q#4(b)

Rewrite the solution to the problem in Task 4 using recursion.