

CSC-113 (Computer Programming – II)

Lab: Recursion

RecurMath
+ Power (base: int, exp: int): int
+ Sum (n: int): int
+ Factorial (n: int): int
+ Mod (val : int, divisor : int) : int

Implement the class “*RecurMath*” as follows:

- 1. Power (base: int, exp : int) : int**
 - Calculate the value Recursively of base to the power of exp, base^{exp} .
 - Example: $\text{Power}(8,2) = 8*8$
- 2. Sum (n: int) : int**
 - Calculate the sum Recursively of all numbers between 0 and n.
 - Example: $\text{Sum}(9) = 0+1+2+3+4+5+6+7+8+9$
- 3. Factorial (n: int) : int**
 - Calculate the Factorial of n or $n!$ Recursively.
 - Example: $\text{Factorial}(8) = 1*2*3*4*5*6*7*8$
- 4. Mod (val : int, divisor : int) : int**
 - Calculate the *remainder* Recursively by dividing val by the *divisor*.
 - Example: $\text{Mod}(5,3)$
 - Do not use %.**