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## **LectureAssignment-1 on Basic C Programming and Algorithm**

1. Write a program to print the Pascal's triangle *recursively* using C (the .c/.cpp file and output screenshot)
2. Write the algorithm (pseudo code) for the same (hand written)
3. Analyse the time complexity (cost, execution time, asymptotic running time) of the main and other related functions (if any) in terms of number of inputs (n) (hand written)

You can consider the following *assumptions* for the simple cost analysis:

$T(n,m) = T(n-1,m-1) + T(n-1,m) + O(1)$ , ignoring  $m$  as an assumption

$T(n,m) = 2T(n-1,m) + O(1)$  [as  $T(n-1,m-1) \approx T(n-1,m)$  OR  $T(n-1,m-1) \leq T(n-1,m)$ ]

(10)