**nCr :-**

Medium Accuracy: 14.82% Submissions: 246K+ Points: 4

Given two integers n and r, find nCr.Since the answer may be very large, calculate the answer modulo 109+7.

**Example 1:**

**Input:** n = 3, r = 2

**Output:** 3

**Explaination:** 3C2 = 3.

**Example 2:**

**Input:** n = 2, r = 4

**Output:** 0

**Explaination:** r is greater than n.

**Your Task:**  
You do not need to take input or print anything. Your task is to complete the function **nCr()** which takes n and r as input parameters and returns nCrmodulo 109+7..

**Expected Time Complexity:** O(n\*r)  
**Expected Auxiliary Space:** O(r)

**Constraints:**  
1 ≤ n ≤ 1000  
1 ≤ r ≤ 800

**Code :-**

// Initial Template for C++

#include <bits/stdc++.h>

using namespace std;

// } Driver Code Ends

// User function Template for C++

class Solution{

public:

int mod = 1000000007;

int nCr(int n, int r){

if(r==0 || r==n) return 1;

else if(r>n) return 0;

vector<int> help(n+1, 0);

help[0] = 1;

for(auto i=1; i<=n; i++){

for(auto j=i; j>=1; j--){

help[j] = (help[j] + help[j-1]) % mod;

}

}

return help[r] % mod;

}

};

//{ Driver Code Starts.

int main(){

int t;

cin>>t;

while(t--){

int n, r;

cin>>n>>r;

Solution ob;

cout<<ob.nCr(n, r)<<endl;

}

return 0;

}

// } Driver Code Ends

**T.C :- O(n\*r)**

**S.C :- O(r)**