

Practice Contest 2.0

Jun 02, 2018, 04:00 PM IST - Jun 03, 2018, 04:00 PM IST

INSTRUCTIONS

PROBLEMS

SUBMISSIONS

LEADERBOARD

ANALYTICS

JUDGE

← Problems / Bob and Internship

Bob and Internship

Max. score: 100

This problem is no longer available for practice. Apology for any inconvenience!

PROBLEM

EDITORIAL

MY SUBMISSIONS

Bob got selected for N day long internship in which he is required to complete M tasks . Each task can be completed in exactly one day . As Bob is very lazy he needs atleat K days for rest before starting any new task . In how many ways you can complete these M tasks . It does not matter in which order you complete these M tasks . Also it is not necessary to take rest after the last task . As output can be very large you have to print answer Modulo $10^9 + 7$.

NOTE : Two ways D_1,D_2,\ldots,D_M and D_1',D_2',\ldots,D_M' are considered different if for any $1\leq i\leq M$ $D_i
eq D_i'$.

INPUT

First line of input contains T number of test cases .

Next T lines contains three space seperated integers ${\bf N}$, ${\bf M}$, ${\bf K}$.

OUTPUT

For each test case print the number of ways in which Bob can complete these M tasks in new line .

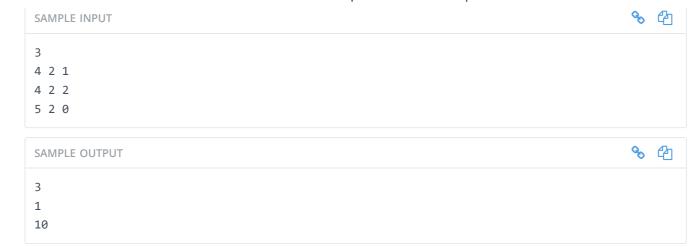
CONSTRAINTS

$$1 \le T \le 10^6$$

$$1 \le M \le N \le 10^6$$

$$0 \le K \le 10^6$$





Explanation

Test Case 1: There are 4 days in which we have to complete 2 tasks. So possible combinations in which we can complete tasks are [1,3], [1,4], [2,4].

You can see we are taking rest of minimum 1 day between two tasks.

Test Case 2: There is only one possible way [1,4] as we have to maintain two day gap between them.

```
Time Limit:0.5 sec(s) for each input file.Memory Limit:256 MBSource Limit:1024 KBMarking Scheme:Score is assigned when all the testcases pass.Allowed Languages:Bash, C, C++, C++14, C++17, Clojure, C#, D, Erlang, F#, Go, Groovy, Haskell, Java, Java 8, Java 14, JavaScript(Rhino), JavaScript(Node.js), Julia, Kotlin, Lisp, Lisp (SBCL), Lua, Objective-C, OCaml, Octave, Pascal, Perl, PHP, Python, Python 3, Python 3, Python 3, R(RScript), Racket, Ruby, Rust, Scala, Swift-4.1, Swift, TypeScript, Visual Basic
```

CODE EDITOR

```
Enter your code or Upload your code as file.
                                                               C (gcc 5.4.0)
                                                       Save
 1
 2
     // Sample code to perform I/O:
     #include <stdio.h>
 3
 4
     int main(){
 5
          int num;
 6
 7
          scanf("%d", &num);
                                                          // Reading input from STDIN
 8
          printf("Input number is %d.\n", num);
                                                      // Writing output to STDOUT
 9
10
     // Warning: Printing unwanted or ill-formatted data to output will cause the test
11
     cases to fail
12
     */
13
     // Write your code here
14
15
```