

Problem ID: maxima

Left-to-Right Maxima

A *permutation* of length N is an ordering of the numbers $1, 2, \dots, N$. For example, 321 and 213 are both permutations of length 3. A number in a permutation that's greater than everything to its left is called a *left-to-right maxima*. The permutation 213 has two left-to-right maxima (2 and 3), but the permutation 321 only has one (3).

We can put a permutation into *canonical cycle form* by breaking it into groups starting at each left-to-right maxima. The canonical cycle form of 213 is then (21)(3) (2 and 1 are in the same group, 3 is in a group by itself). Here's another more complicated permutation written in canonical cycle form (note that the left-to-right maxima are all bolded):

312548976 **(312)**(54)**(8)**(976)

The canonical cycles forms of length 3 permutations are:

123	(1) (2)(3)
132	(1) (32)
312	(312)
321	(321)
213	(21)(3)
231	(2)(31)

For this problem, we would like to know how many permutations of length N have both i and j in the same group.

Input

The input will begin with a line containing a single positive integer, t , representing the number of test cases to process. Each test case will consist of three space-separated integers N , i , and j ($1 \leq i, j \leq N \leq 19$).

Output

For each test case print the number of permutations of length N that have i and j in the same groups when put into canonical cycle form, on its own line.

Sample Input

Sample Output

2	1
2 1 2	6
3 1 1	12
4 3 4	