Problem
Counting Sequence 2
Time limit: 6 seconds

Little Cyan Fish is counting permutations again.

Little Cyan Fish has three integers n, k, and S. A permutation of length n is a sequence containing each integer from 1 to n exactly once. Little Cyan Fish calls an index i good if $1 \leq i \leq n-2$ and $p_i + p_{i+1} \leq S$.

Find the number of permutations p of length n that have exactly k good indices. Since the answer may be large, output it modulo 998244353.

Input

There are multiple test cases. The first line of the input contains a single integer T ($1 \leq T \leq 1000$), indicating the number of test cases.

For each test case, the first line contains three integers n, k, and S ($1 \leq k \leq n \leq 10^5$, $1 \leq S \leq 2n-1$).

It is guaranteed that the sum of n over all test cases does not exceed 10^5.

Output

For each test case, output a single line containing a single integer, indicating the number of permutations that have exactly k good indices, modulo 998244353.

Sample Input 1	Sample Output 1
6 3 1 3 3 1 4 4 1 4 4 2 5 3 2 5 1 1 1	2 4 12 10 0 0

In the first test case, the two permutations are $[1, 2, 3]$ and $[2, 1, 3]$.

In the second test case, the four permutations are $[1, 2, 3]$, $[2, 1, 3]$, $[1, 3, 2]$, and $[3, 1, 2]$.

In the fifth and sixth test cases, there are fewer than k indices satisfying $1 \leq i \leq n-2$, so the answer is 0.