H • Maximum in the Cycle of 1

If ***P*** is a permutation of the integers `1, …, n`, the *maximum in the cycle of 1* is the maximum of the values ***P(1), P(P(1)), P(P(P(1)))***, etc. For example, if ***P*** is the permutation:

```
|1 2 3 4 5 6 7 8|
|3 2 5 4 1 7 8 6|
```

we have:

```
P(1) = 3
P(P(1)) = P(3) = 5
```

and

```
P(P(P(1))) = P(5) = 1
```

so the maximum in the cycle of 1 is 5.

For this problem, you will write a program which takes as input integers `n,` (`n > 0`) and `k` (`1 <= k <= n`), and returns the number of permutations of the integers `1, …, n`, for which the maximum in the cycle of 1 is `k`.

Input

The first line of input contains a single integer ***P***, (`1 ≤` ***P*** `≤ 1000`), which is the number of data sets that follow. Each data set is a single line that contains the three space separated decimal integer values. The first value is the data set number, ***N.*** The second value is the size of the permutation, **`n`** where (**`1 <= n <= 20`**), and the third value is the desired maximum in the cycle of 1, **`k`** where (**`1 <= k <= n`**).

Output

For each data set there is one line of output. It contains the data set number (***N***) followed by a single space, followed by a double precision floating point whole value which is the number of permutations of the integers `1, …, n`, for which the maximum in the cycle of 1 is `k`.

Sample Input	Sample Output
4 1 4 1 2 7 3 3 10 5 4 20 7	1 6 2 168 3 86400 4 1158524765798400