F • Adjacent Bit Counts

For a string of ***n*** bits $x_1, x_2, x_3, \ldots, x_n$, the *adjacent bit count* of the string (**`AdjBC(x)`**) is given by

$$x_1 * x_2 + x_2 * x_3 + x_3 * x_4 + \ldots + x_{n-1} * x_n$$

which counts the number of times a 1 bit is adjacent to another 1 bit. For example:

```
AdjBC(011101101) = 3
AdjBC(111101101) = 4
AdjBC(010101010) = 0
```

Write a program which takes as input integers ***n*** and ***k*** and returns the number of bit strings ***x*** of ***n*** bits (out of 2^n) that satisfy `AdjBC(x) = k`. For example, for 5 bit strings, there are 6 ways of getting `AdjBC(x) = 2`:

```
11100, 01110, 00111, 10111, 11101, 11011
```

Input

The first line of input contains a single integer ***P***, ($1 \le P \le 1000$), which is the number of data sets that follow. Each data set is a single line that contains the data set number, followed by a space, followed by a decimal integer giving the number (***n***) of bits in the bit strings, followed by a single space, followed by a decimal integer (***k***) giving the desired adjacent bit count. The number of bits (***n***) will not be greater than 100 and the parameters ***n*** and ***k*** will be chosen so that the result will fit in a *signed* 32-bit integer.

Output

For each data set there is one line of output. It contains the data set number followed by a single space, followed by the number of ***n***-bit strings with adjacent bit count equal to ***k***.

Sample Input	Sample Output
10 1 5 2 2 20 8 3 30 17 4 40 24 5 50 37 6 60 52 7 70 59 8 80 73 9 90 84 10 100 90	1 6 2 63426 3 1861225 4 168212501 5 44874764 6 160916 7 22937308 8 99167 9 15476 10 23076518