
6. Hash Codes

Program Name: HashCodes.java

Input File: hashcodes.dat

Hash codes are used to map items to a numerical value by using some mathematical formula. Once mapped, there are quick retrieval methods to locate the item for use. The bad thing about using hash codes is that sometimes, more than one item will map to the same hash code thus causing a collision.

You are to write a program that will determine the number of collisions that could happen given the following parameters:

- The items to be mapped will be composed of a given number of upper case letters of the alphabet.
- The letters used in any word will be in increasing order of the alphabet.
- The items will be mapped by finding the sum of the locations of the letters in the alphabet. A=1, B=2, C=3, etc.)

Example: There are 7 three letter words with letters in ascending order that have a hash code of 12. They are:

ABI
ACH
ADG
AEF
BCG
BDF
CDE

Note: "Words" are combinations of letters that meet the criteria listed above.

Input

The first line of input will contain a single integer n that indicates the number of cases to consider. Each of the following n lines will contain two integers in the form $w \ h$ where $2 < w \leq 5$ is the numbers of letters in the word and h is the value of the hash code.

Output

For each case that is input, print the number of collisions that could happen.

Example Input File

```
3
3 12
4 22
3 65
```

Example Output to Screen

```
7
34
14
```