1. Buy me a tablet

Sandrakutty decided to buy a new tablet. Her budget is B, so she cannot buy a tablet whose price is greater than B. Other than that, she only has one criterion — the area of the tablet's screen should be as large as possible. Of course, the screen of a tablet is always a rectangle.

Sandrakutty has visited some tablet shops and listed all of her options. In total, there are N available tablets, numbered 1 through N. For each valid i, the i-th tablet has width W_i, height H_i and price P_i.

Help Sandrakutty choose a tablet which she should buy and find the area of such a tablet's screen, or determine that she cannot buy any tablet.

Input the number of test cases, budget in each case the number of tablets, each tablet's width,height and price.
Output the area of the tablet Sandrakutty should buy.

Sample Input
Input :
Test cases:2
Budget:10
Tablets:3
Width,Height,Price:
2 3 5
10 4 12
5 5 10
Budget:5
Tablets:2
Width,Height,Price:
2 5 7
5 4 12

Output:
25
Can't buy a tablet

2. Greatest Common divisor

The greatest common divisor (GCD) of a sequence is the greatest positive integer which divides each element of this sequence.

You are given a sequence A of positive integers with size N. You are allowed to delete up to N−1 elements from this sequence. (I.e., you may delete any number of elements, including zero, as long as the resulting sequence is non-empty.)

Please find the minimum number of elements which have to be deleted so that the GCD of the resulting sequence would be equal to 1, or determine that it is impossible.

Input is the number of test cases, N, and the array of sequence

Output is the least number of deletions required. If it is impossible to get gcd as 1, then output is -1.

Sample input and output
Input:
Test cases:3
N:3
2 3 5
N:2
2 4
N:5
2 8 9 3 5

Output:
0
-1
2

3. Teena's Hobby

The religious act which Teena and Anagha hold most sacred, XORING the natural numbers in the given range. This time Teena is a bit busy with picking up some girls, so she asked you to help her. She gave you two numbers L and R, you have to find if XOR of all the numbers in range L to R (L,R both inclusive) is odd or even.

Input the number of test cases, L,R
Output even or odd.

Sample Input,Output:
Input:
Test cases:4
  1 4
  2 6
  3 3
  2 3

4.Find shortest Path

Shahina is stuck in a 3x3 matrix. She is at the top left corner of the matrix. She needs to reach the bottom right corner and get out of the matrix. Each block of the matrix ,she needs to pay a certain fee to move out from it. Shahina has a certain amount of money for the travel purpose. Find the way through which shahina can go so that she have to spend the least amount of money.

Input the number of test case, the amount of money shahina has, the cost of each block row after row.
Output the way shaina chooses and the amount she spend.

Sample Input,Output
Input:
Test cases:2
Money:100
10
10
20
70
5
6
4
1
10
Money:30
10
10
20
20
20
27
21
34
12

Output:
1,5,9 money spend:25
Shahina cant reach home