

## Bit Difference

You are given two numbers **A** and **B**. Write a program to **count number of bits needed to be flipped to convert A to B**.

### Input:

The first line of input contains an integer **T** denoting the number of test cases. **T** testcases follow. The first line of each test case is **A** and **B** separated by a space.

### Output:

For each testcase, in a new line, print the number of bits needed to be flipped.

### User Task:

The task is to complete the function **countBitsFlip()** that takes **A** and **B** as parameters and **returns** the **count of the number of bits to be flipped to convert A to B**.

Expected Time Complexity:  $O(\log N)$ .

Expected Auxiliary Space:  $O(1)$ .

### Constraints:

$$1 \leq T \leq 10^5$$

$$1 \leq A, B \leq 10^6$$

### Example:

#### Input:

2

10 20

20 25

#### Output:

4

3

### Explanation:

#### Testcase 1:

A = 01010

Theme Light

C++ (g++ 5.4)

OK / ?

```
1 // } Driver Code Ends
9
10
11 //User function Template for C++
12
13 // Function to find number of bits to be flip
14 // to convert A to B
15 int countBitsFlip(int a, int b){
16
17     // int ans=0;
18     // bitset<32> b1(a);
19     // bitset<32> b2(b);
20     // string s1=b1.to_string();
21     // string s2=b2.to_string();
22     // for(int i=0;i<s1.length();i++)
23     //     if(s1[i]!=s2[i])
24     //         ans++;
25
26     // return ans;
27
28     int ans=0;
29
30     int n=a^b;
31     while(n!=0){
32         ans+=n&1;
33     }
34
35
36     return ans;
37
38 }
39 // } Driver Code Ends
```

Output

☐ Test against custom input

Expected Outcome

See Hints

Compile & Test

Submit

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