## horizontal line

## **Sum of given range (Segment Tree)**

## **Problem Statements :**

You are given an array A of n numbers of integers. You have two types of query for this problem. In query one you have given some range and you have to print the sum of all elements lies within this range. In second type of query, you have given some updated value of numbers of array A. Now you have to print the sum of integers lies within given range after updating the value of number in the array A.

**Input Format :**

First line contains integer t as number of test cases.

Each test case It contains following lines.

First line contains integer n which represents the length of the array A and next line contains n space separated integers.

Third line contains two integers which represents the number of range(q) and updated value(u).

Next q lines contains two integers which is the range of given array.

Next u lines contains two integers in which 1st integers is index of number (starting from 1) in the array and 2nd integer is the updated value.

**Constraints :**

1 < t < 100

1< n,q,u < 100

**Output Format :**

Print the original sum and sum after updating the array according to the given output below.

**Sample Input :**

2

6

1 3 5 7 9 11

1 1

2 4

2 10

6

1 3 5 7 9 11

2 2

2 4

4 6

2 10

5 5

**Sample Output :**

#Test\_Case : 1

Sum of values in given range = 15

Updated sum of values in given range = 22

#Test\_Case : 2

Sum of values in given range = 15

Sum of values in given range = 27

Updated sum of values in given range = 22

Updated sum of values in given range = 23

**Explanation :**

For 2nd test case : sum in original array = 3+5+7 (2 to 4) and 7+9+11 (4 to 6), sum after updating the value of array = update 3 to 10 and 9 to 5 and find the sum.

**Time Limit :**