Week 9

Problem 2

Problem Statement:

Given an array a of n integers, process the following types of queries.

- Add the value v to all the elements in the range a[l...r]
- Compute the sum of squares of elements in the range a[l...r], I.e. a[l]^2+a[l+1]^2+…+a[r]^2

Input:

The first line contains two integers *n and q* denoting the length of the array and the number of queries.

The second line contains n space separated integers a1 a2 … an, representing the array a.

Each of the next q lines starts with a number denoting the type of the query

1. Query of type 1 has three parameters l, r and v and you have to add v to all the elements in the range a[l...r].
2. Query of type 2 has two parameters, l and r, you have to return the sum of squares of elements in the range a[l...r].

Output:

Print an integer for each query of type 2 denoting the answer the query.

Constraints:

$1 <= n,q <= 10^5$

$1<=l<=r<=n$

$-1*10^{-3} <= v <= 1*10^3$

Sample Testcases:

Input	Output
5 3 1 2 3 4 5 2 1 5 1 1 3 1 2 1 5	55 70