

Overview:	Compute the sum of the numbers over subintervals of an array given updates to the array.
Description:	You are given a one-indexed array of N integers. You perform Q operations on the array. There are two types of operations. There is a <i>query operation</i> , specified on an interval of the array, where you output the sum of the numbers in that interval. There is also an <i>update operation</i> , specified by an interval of the array and a single number, where you increase each number in that interval by the specified number.
Filename:	bug12.{java, cpp, py}
Input:	The first line of the file contains two positive integers, N and Q. The next line contains N integers, the integers of the array in order. Each of the next Q lines contains a single operation. For a query operation, the line will start with the letter Q and two integers. For an update operation, the line will start with the letter U and three integers, the first two specifying the interval and the third specifying the incremental amount.
Output:	For each query operation, output the sum.
Assumptions:	Every integer in the input has magnitude at most 10000. N and Q will be strictly positive. In all operations, the second integer will be no smaller than the first. All query intervals will be valid.
Sample Input 1:	10 1 1 2 3 4 5 6 7 8 9 10 Q 1 10
Sample Output 1:	55
Sample Input 2:	10 3 1 2 3 4 5 6 7 8 9 10 Q 1 5 U 6 10 1 Q 1 5
Sample Output 2:	15 15