

Algorithm Class Mini-Contest 10

Problem: BUSSTOP

Time Limit: 2.0 seconds

Memory Limit: 32 MB

Problem Description It is knock-off time and office workers are getting off from work. There are N bus stops along a stretch of road, numbered 1 to N and the distance between the i -th and the $i+1$ -th bus stop is D_i kilometers. The bus depot is located at bus stop 1, and there are a total of B buses there at first.

M people are getting off work, each of them at time T_i minutes and at bus stop L_i . Buses can pick them up, with unlimited capacity, and take 1 minute to travel 1 kilometer, but can only travel in the direction away from the depot. The wait time of a person is defined as the number of minutes between the person's arrival at the bus stop and the time of the bus' arrival. The bus company can release the buses at any time from the depot, but once they leave the depot, they cannot wait at a bus stop or along the road. Calculate the minimum possible sum of all waiting times of the M people if all of them must be picked up.

Input Format The first line of input contains three integers, N , M and B . The next line of input will contain $N - 1$ integers, representing the array D . The next M lines of input will contain two integers each, L_i and T_i .

Output Format The output should contain one line with one integer, the minimum sum of all waiting times.

Limits These are the bounds on the input.

Subtask	Score	Additional Bounds
1	21	$1 \leq N, M, B \leq 100$
2	33	$1 \leq N, M, B \leq 500$
3	46	$1 \leq N, M \leq 50,000, 1 \leq B \leq 500$
All	-	$1 \leq D_i \leq 10^4, 0 \leq T_i \leq 10^5$

Sample Input

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4 6 2
1 3 5
1 0
2 1
4 9
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1 10
2 10
3 12

Sample Output

3