

## Problem Statement

Let's consider a standard darts target that consists of  $K$  concentric circles with the corresponding radiuses  $R_1, R_2, \dots, R_K$  with the common center in the origin  $(0, 0)$ .

If your shot lands inside the smallest circle, you will get  $K$  points. Landing between the  $i^{\text{th}}$  and the  $(i + 1)^{\text{th}}$  circle will give you  $i$  points. This means your shot includes the  $i^{\text{th}}$  circle, but excludes the  $(i + 1)^{\text{th}}$  circle. If the shot lands on the boundary of the circle, it will be considered to have landed inside that circle.

Finally, if you are unable to land inside or on the boundary of the 1<sup>st</sup> circle, you will get 0 points for that shot.

You are given coordinates  $x_i, y_i$  of  $N$  shots. Calculate the final score (the sum of all the points).

## Input Format

The first line contains two space-separated integers:  $K$  and  $N$ .

The second line contains  $K$  space-separated integers:  $R_1, R_2, \dots, R_K$ .

The following  $N$  lines contain two-space separated integers  $x_i, y_i$ , the coordinates of the  $i^{\text{th}}$  shot.

## Constraints

- $1 \leq K \leq 10^4$
- $1 \leq N \leq 5 \times 10^5$
- $1 \leq R_K < R_{K-1} < \dots < R_1 \leq 5 \times 10^4$
- $|x_i|, |y_i| \leq 5 \times 10^4$

In test data worth 40% of points,  $1 \leq N \leq 10^3$  holds in addition.

## Output Format

Output one integer on a single line: The sum of all the points scored.

## Sample Input

```
5 6
10 8 6 4 2
0 0
1 1
2 2
3 3
4 4
5 5
```

## Sample Output

```
22
```

## Explanation

The partial scores are:  $5 + 5 + 4 + 3 + 3 + 2 = 22$