In a city there are n bus drivers. Also there are n morning bus routes and n afternoon bus routes wi various lengths. Each driver is assigned one morning route and one evening route. For any driver, his total route length for a day exceeds d, he has to be paid overtime for every hour after the first hours at a flat r taka / hour. Your task is to assign one morning route and one evening route to ea bus driver so that the total overtime amount that the authority has to pay is minimized.

Input

The first line of each test case has three integers n, d and r, as described above. In the second lir there are n space separated integers which are the lengths of the morning routes given in mete Similarly the third line has n space separated integers denoting the evening route lengths. The lengt are positive integers less than or equal to 10000. The end of input is denoted by a case with three 0

Output

For each test case, print the minimum possible overtime amount that the authority must pay.

Constraints

- $1 \leq n \leq 100$
- $1 \leq d \leq 10000$
- $1 \leq r \leq 5$

Sample Input

```
2 20 5
10 15
10 15
2 20 5
10 10
10 10
0 0 0
```

Sample Output

```
50
0
```