

Question :

You are given with the Rank and Height of the students in a class. Print the maximum sum on product of the rank and height of the student on any arrangement.

Constraints :

$1 \leq N \leq 10000$

$0 \leq \text{rank}[i] \leq N-1$

$50 \leq \text{height}[i] \leq 150$

Input Description :

Number of Students in a class

Rank of the students

Height of the students

Output Description :

Maximum sum on product of rank and height on any arrangement

Solution :

```
import sys

def maxSum(arr, n):
    res = -sys.maxsize
    for i in range(0, n):
        curr_sum = 0
        for j in range(0, n):
            index = int((i + j) % n)
            curr_sum += j * arr[index]
        res = max(res, curr_sum)
    return res

arr = [8, 3, 1, 2]
n = len(arr)

print(maxSum(arr, n))
```

Test Cases:**Test Case 1:**

Input:

4

0 1 2 3

8 3 1 2

Output:

29

Test Case 2:

Input:

7

0 4 5 6 1 2 3

8 3 1 2 4 5 6

Output:

115

Test Case 3:

Input:

5

0 4 2 3 1

1 2 4 5 6

Output:

49

Test Case 4:

Input:

10

0 7 8 9 5 6 4 2 3 1

1 2 4 5 6 4 5 6 3 1

Output:

208

Test Case 5:

Input:

9

0 7 8 5 6 4 2 3 1

1 4 5 6 4 5 6 3 1

Output:

172