Contest Duration: 2023-05-20(Sat) 09:00 (http://www.timeanddate.com/worldclock/fixedtime.html? iso=20230520T2100&p1=248) - 2023-05-20(Sat) 10:40 (http://www.timeanddate.com/worldclock/fixedtime.html?

iso=20230520T2240&p1=248) (local time) (100 minutes)

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D - Impartial Gift Editorial (/contests/abc302/tasks/abc302_d/editorial)



Time Limit: 2 sec / Memory Limit: 1024 MB

Score: 400 points

Problem Statement

Takahashi has decided to give **one** gift to Aoki and **one** gift to Snuke.

There are N candidates of gifts for Aoki, and their values are A_1,A_2,\ldots,A_N .

There are M candidates of gifts for Snuke, and their values are B_1, B_2, \ldots, B_M .

Takahashi wants to choose gifts so that the difference in values of the two gifts is at most D.

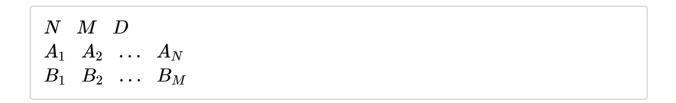
Determine if he can choose such a pair of gifts. If he can, print the maximum sum of values of the chosen gifts.

Constraints

- $1 \le N, M \le 2 \times 10^5$
- $1 \le A_i, B_i \le 10^{18}$
- $0 < D < 10^{18}$
- All values in the input are integers.

Input

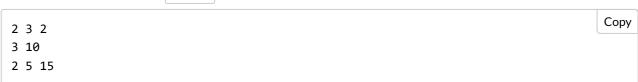
2023-05-30 (Tue) 16:34:14 -03:00



Output

If he can choose gifts to satisfy the condition, print the maximum sum of values of the chosen gifts. If he cannot satisfy the condition, print -1.

Sample Input 1 Copy



Sample Output 1 Copy



The difference of values of the two gifts should be at most 2.

If he gives a gift with value 3 to Aoki and another with value 5 to Snuke, the condition is satisfied, achieving the maximum possible sum of values.

Thus, 3+5=8 should be printed.

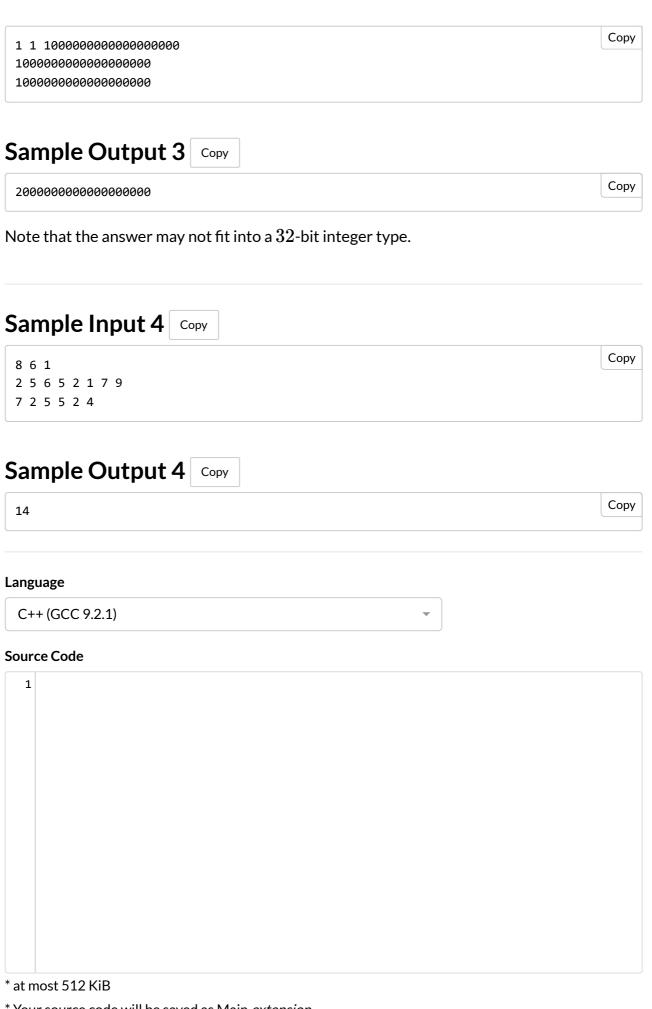
Sample Input 2 Copy

```
3 3 0
1 3 3
6 2 7
```

Sample Output 2 Copy



He cannot choose gifts to satisfy the condition. Note that the candidates of gifts for a person may contain multiple gifts with the same value.



^{*} Your source code will be saved as Main. extension.



Submit

#telegram)

url=https%3A%2F%2Fatcoder.jp%2Fcontests%2Fabc302%2Ftasks%2Fabc302_d%3Flang%3Den&title=D%20-

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