Coding questions

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Find Triplets

Given an array of distinct integers. The task is to count all the triplets such that the sum of two elements equals the third element.

Sample Input 1:

4

2 6 4 8

Sample Output 1:

2

Sample Input 2:

4

1 3 5 7

Sample Output 2:

0

Input Explanation:

Line1: size of array

Line2: elements of array

Output Explanation:

Number of triplets that can be formed

Sample Input

```
4
1 2 3 5
```

Sample Output

```
2
```

Sample Input

```
6
2 5 9 11 15 30
```

Sample Output

```
1
```

From <https://mymapit.in/#/test/310923918>

Number of Sticks

Mananjay has **N** sticks of **K** length. **K** being different or the same for every stick. He just wants to know how many sticks of particular length **L** can he make using only two or only a single stick(s) he has in stock. Two sticks or Single stick used to make the stick of particular length **L** can not be used twice.

Sample Input 1:

5 13

4 9 1 32 13

Sample Output 1:

2

Sample Input 2:

3 11

21 1 9

Sample Output 2:

0

Input Explanation:

Line1:space separated number of sticks in stock **N** and Length **L** of the required stick

Line2: space separated length of sticks in stock.

Output Explanation:

Return number of sticks Mananjay can form using the sticks in stock..

Sample Input

```
4 4
0 4 3 7
```

Sample Output

```
1
```

Sample Input

```
3 3
1 2 3
```

Sample Output

```
2
```

From <https://mymapit.in/#/test/310923918>

Smith Number

Smith Number

A Smith Number is a composite number, whose sum of digits is equal to the sum of digits of its prime factors. It may be noted here that, 1 is not considered a prime number, hence it is not included in the sum of digits of distinct prime factors.

Given a number **n**, determine whether it is a Smith Number or not.

Sample Input 1:

2

4

8

Sample Output 1:

Smith Number

Not Smith Number

Input Explanation:

Line 1: Number of Test Cases (**N**) followed by N subsequent lines of positive numbers

Output Explanation:

N lines returning if the given number is Smith Number or Not.

Sample Input

```
2
6
12
```

Sample Output

```
Not Smith Number
Not Smith Number
```

Sample Input

```
2
666
13
```

Sample Output

```
Smith Number
Smith Number
```

From <https://mymapit.in/#/test/310923918>

Sorted array with unsorted indices

Given an array of distinct integers. The task is to print the index of the largest number first and then the index of the 2nd largest number and so on till the last one.

Note:

If two or more numbers are the same then print the index of the number which comes first in the array.

Sample Input 1:

6

2 6 4 8 2 6

Sample Output 1:

3 1 5 2 0 4

Sample Input 2:

4

1 3 7 5

Sample Output 2:

2 3 1 0

Input Explanation:

Line1: size of array

Line2: elements of array

Output Explanation:

Index of largest element first and continue till the end of array.

Sample Input

```
4
1 2 3 5
```

Sample Output

```
3 2 1 0
```

Sample Input

```
6
2 11 9 11 15 2
```

Sample Output

```
4 1 3 2 0 5
```

From <https://mymapit.in/#/test/310923918>

Highest Peak

Vishal went to Shimla for his summer gholidays. He saw 3-4 layers of mountains beautifully spread infront of him. They looked all almost same from a distance. Vishal decided to find the highest peak. He got the height of each mountain and fed them in an array. If the mountain was not smaller than its neighbours he took it as the highest peak. For example:

Input:

7

10 20 15 2 010 90 67

Ouput:

20 or 90

Sample Input

```
4
2 6 18 14
```

Sample Output

```
18
```

Sample Input

```
8
0 1 2 4 9 7 5 10
```

Sample Output

```
10
```

From <https://mymapit.in/#/test/310923918>

Largest distance between magnets

Arun has K(>1) very strong magnets with him. He had a container and divided it into smaller spaces using cardboard so that no two magnets get attracted towards each other and combine to get destroyed from the edges. He placed some wood chips in some of the divisions he made in the container. Now he has only N places to store the magnets which is sufficiently more or equal to K magnets. The position of places which are empty are stored in an array. Now, you need to place the magnets, such that the minimum distance between the magnets is as large as possible. Return the largest minimum distance.

Sample Input 1:

6 4

0 3 4 7 10 9

Sample Output 1:

3

Sample Input 2:

5 2

4 2 1 3 6

Sample Output 2:

5

Input Explanation:

Line1:space separated number of places empty and number of magnets

Line2: space separated position of empty places.

Output Explanation:

Largest minimum distance between the magnets.

Sample Input

```
6 3
0 4 3 7 10 9
```

Sample Output

```
4
```

Sample Input

```
3 2
1 2 3
```

Sample Output

```
2
```

From <https://mymapit.in/#/test/310923918>

Find Maximum

Given an array of integers which is initially increasing and then decreasing, find the maximum value in the array.

Sample Input 1:

11

18 20 22 81 92 101 240 300 30 20 11

Sample Output 1:

300

Input Explanation:

Line 1: size of array

Line2: Elements of array

Output Explanation:

Maximum Number present in the array.

Sample Input

```
5
1 2 3 2 1
```

Sample Output

```
3
```

Sample Input

```
6
1 3 4 5 6 2
```

Sample Output

```
6
```

From <https://mymapit.in/#/test/310923918>

Kth prime factor

Given two numbers N and K, print the Kth prime factor among all prime factors of n. If there is no Kth prime factor output should be -1.

Sample Input 1:

15 2

Sample Output 1:

5

Sample Input 2:

15 3

Sample Output 2:

-1

Input Explanation:

Space Separated N and K

Output Explanation:

Kth prime factor of N

Sample Input

```
225 2
```

Sample Output

```
3
```

Sample Input

```
81 5
```

Sample Output

```
-1
```

From <https://mymapit.in/#/test/310923918>

Aggressive Cows

Given an array of length ‘N’, where each element denotes the position of a stall. Now you have ‘N’ stalls and an integer ‘K’ which denotes the number of cows that are aggressive. To prevent the cows from hurting each other, you need to assign the cows to the stalls, such that the minimum distance between any two of them is as large as possible. Return the largest minimum distance.

Sample Input 1:

6 4

0 3 4 7 10 9

Sample Output 1:

3

Sample Input 2:

5 2

4 2 1 3 6

Sample Output 2:

5

Input Explanation:

Line1:space separated number of places empty and number of cows

Line2: space separated position of empty places.

Output Explanation:

Largest minimum distance between the cows.

Sample Input

```
6 3
0 4 3 7 10 9
```

Sample Output

```
4
```

Sample Input

```
3 2
1 2 3
```

Sample Output

```
2
```

From <https://mymapit.in/#/test/310923918>

MotoGP

Varun enjoys watching MotoGP. He invited his friend over the weekend at his farm house and asked his friend to pick a racer and see who wins. They decide to choose the racer such that the race is close . This can happen only if the racers are comparable in their skill, i.e. the difference in their skills is less.

There are **N** racers participating in the race. The skill of the racer **k** is represented by an integer **T[k]**. Varun and his friend need to pick 2 racers for the race such that the difference in their skills is minimum. This way, it will be a very interesting race. Your task is to help him do this and report the minimum difference that is possible between 2 racers in the race.

Sample Input 1:

5

4 9 1 32 13

Sample Output 1:

3

Sample Input 2:

3

21 1 9

Sample Output 2:

8

Input Explanation:

Line1:Number of racers

Line2: space separated skills of each racer.

Output Explanation:

Minimum difference that is possible between the skills of racers.

Sample Input

```
3
0 4 3 7
```

Sample Output

```
1
```

Sample Input

```
3
1 2 3
```

Sample Output

```
1
```

From <https://mymapit.in/#/test/310923918>