Flutter Diploma

Become a Flutter Developer with just one course

Note : Problem should be written in files and every file contain only one problem

Note2 : The input array can be fixed data in your file like that [1, 2, 4, 4] or takes input from user many numbers and save them in empty list then use it as input

1

Write a program to test if an array contains a specific value if it is in the array print Yes if it's not print no

for example

input

```
[ 8, 0, 1, 5 ]
0
```

output

```
Yes
```

another example

input

```
[ 8, 0, 1, 5 ]
2
```

output

```
No
```

2

Write a program to calculate the average value of array elements

for example

input

```
[ 1, 9, 0, 5, 4, 2 ]
```

output

```
3.5
```

3

Write a program to find the second smallest element in an array

for example

input

```
[ 1, 9, 0, 5, 4, 2 ]
```

output

```
1
```

4

Write a program that reads student scores, gets the best score, and then assigns grades based on the following scheme:
Grade is A if score is >= best score - 10
Grade is B if score is >= best score - 20;
Grade is C if score is >= best score - 30;
Grade is D if score is >= best score - 40;
Grade is F otherwise.
The program asks the user to enter the total number of students, then asks the user to enter all of the scores and concludes by displaying the grades.

for example

input

```
Enter the number of students: 4
Enter 4 scores: 40
 55
 70
 58
```

output

```
Student 1 score is 40 and grade is C
Student 2 score is 55 and grade is B
Student 3 score is 70 and grade is A
Student 4 score is 58 and grade is B
```

5

Write a program that reads ten integers and displays them in the reverse of the order in which they were read.

for example

input

```
Enter 10 numbers :1
2
3
4
5
6
7
8
9
10
```

output

```
10 9 8 7 6 5 4 3 2 1
```

6

Write a program that reads the integers between 1and 100 and counts the occurrences of each. Assume the input ends with 0

for example

input

```
Enter the integers between 1 and 100: 2  5  6  5  4  3  23  43  2  0
```

output

```
2 occurs 2 times
3 occurs 1 time
4 occurs 1 time
5 occurs 2 times
6 occurs 1 time
23 occurs 1 time
43 occurs 1 time
```

7

Write a program that reads an unspecified number of scores and determines how many scores are above or equal to the average and how many scores are below the average. Enter a negative number to signify the end of the input. Assume that the maximum number of scores is 100.

for example

input

```
8
5
1
3
-1
```

output

```
Above average:2
Below average:2
Equal average:0
```

8

Write a program that reads in ten numbers and displays the number of distinct numbers and the distinct numbers separated by exactly one space (i.e., if a number appears multiple times, it is displayed only once).

Hint: Read a number and store it to an array if it is new. If the number is already in the array, ignore it. After the input,/ the array contains the distinct numbers.

for example

input

```
Enter ten numbers: 1 2 3 2 1 6 3 4 5 2
```

output

```
The number of distinct number is 6
The distinct numbers are: 1 2 3 6 4 5
```