**1.Problem Statement**

Imagine you are developing a text editor application, and you need to implement a feature that allows users to insert a new character at a specified position in an array of characters.

Write a program that takes input from the user, including the size of the array, the characters for the array, the position for insertion, and the character to be inserted. The program should shift the elements of the array to make space for the new character and insert it at the specified position.

Finally, the program should display the updated array after the insertion.

Input format :

The first line contains an integer representing the size of the array.

The second line contains the characters for the array, separated by spaces.

The third line contains an integer representing the position for insertion.

The fourth line contains a single character representing the character to be inserted.

Output format :

The output should display the updated string after the insertion, separated by spaces.

Code constraints :

The maximum size of the array is 100.

The size of the array should be a positive integer.

The position for insertion should be a valid index in the range from 0 to size - 1.

Sample test cases :

Input 1 :

5

a b c d e

2

X

Output 1 :

Updated array after insertion: a b X c d e

Input 2 :

3

p q r

0

Z

2.**Problem Statement**

You are a skilled software engineer working at a renowned financial analysis company. Your company is renowned for its expertise in analyzing stock market data to provide valuable insights and recommendations to clients. As part of your role, you have been entrusted with developing a program that filters out negative stock prices from an array of daily closing prices.**Note:** This kind of question will be helpful in clearing TCS recruitment.

Input format :

The first line should include the size of the array, which represents the number of closing prices.

The second line should include the closing prices of the stocks, separated by spaces.

Output format :

The program will exhibit a line presenting the updated array, consisting exclusively of positive closing prices

**Refer to the sample input and output formatting specifications.**

Code constraints :

The array size is limited to a maximum of 100.

The closing prices can be positive, negative, or zero.

The closing prices are represented as double values.

Sample test cases :

Input 1 :

7

-2.3 5.6 7.8 -4.5 9.1 -6.7 3.2

Output 1 :

Updated Array with Positive Closing Prices: 5.6 7.8 9.1 3.2

Input 2 :

5

10.5 -5.2 8.7 -3.9 12.3

Output 2 :

Updated Array with Positive Closing Prices: 10.5 8.7 12.3

Question No: 3

Single File Programming Question

**Problem Statement**

Given an array of integers, write a program to rotate the array to the right by a specified number of positions. The program should prompt the user to enter the number of positions to rotate and then display the updated array.

Input format :

The first line of input contains an integer representing the size of the array.

The second line of input contains the elements of the array, separated by a space.

The last line of input contains an integer to enter the number of positions to rotate the array.

Output format :

The output displays the original array before rotation and the updated array after rotation.

**Refer to the sample output for formatting specifications.**

Code constraints :

Maximum size of the array (MAX\_SIZE = 100).

The size of the array should be a positive integer.

The elements of the array can be any integer.

The number of positions to rotate the array can be positive

Sample test cases :

Input 1 :

6

1 2 3 4 5 6

2

Output 1 :

Original array: 1 2 3 4 5 6

Updated array: 5 6 1 2 3 4

Input 2 :

7

12 65 34 80 38 51 72

10

Output 2 :

Original array: 12 65 34 80 38 51 72

Updated array: 38 51 72 12 65 34 80

Input 3 :

5

8 -2 3 -4 6

4

Output 3 :

Original array: 8 -2 3 -4 6

Updated array: -2 3 -4 6 8

Question No: 4

**Problem Statement**

You are developing a program for a data processing company. The company deals with large sets of data consisting of strings. However, due to data collection methods, there may be duplicate strings in the data sets. Your task is to develop a program that removes duplicate strings from an array of strings.

Write a program that takes user input for the size of the array and the strings in the array. After removing duplicate strings, the program should display the updated array.

Input format :

The first line of input consists of an integer that represents the size of the array.

The next 'size' lines consist of the strings in the array, each on a new line.

Output format :

The program outputs a single line displaying the updated array of strings after removing duplicates.

Code constraints :

The size of the array should be a positive integer.

Each string in the array should not exceed 100 characters.

String comparison is case-sensitive.

Sample test cases :

Input 1 :

5

apple

banana

orange

banana

grape

Output 1 :

Updated array: apple banana orange grape

Input 2 :

8

Grapes

Grapes

Grapes

Grapes

Banana

Banana

Guava

Guava

Output 2 :

Updated array: Grapes Banana Guava

5.Question No: 5

**Problem Statement**

Given an array of integers, write a program to traverse through the array and find the sum of all the elements.

Input format :

The first line of input consists of an integer, which represents the size of the array.

The second line of input consists of the elements of the array.

Output format :

The output prints the sum of the elements in the array.

Code constraints :

MAX\_SIZE of the array = 100

The size of the array should be a positive integer.

The elements of the array can be both positive and negative integers.

Sample test cases :

Input 1 :

5

1 2 3 4 5

Output 1 :

15

Input 2 :

7

12 65 34 80 38 51 72

Output 2 :

352

Input 3 :

5

8 -2 3 -4 6

Output 3 :

11