LAB EVAL

(EXTRA)

SET-1

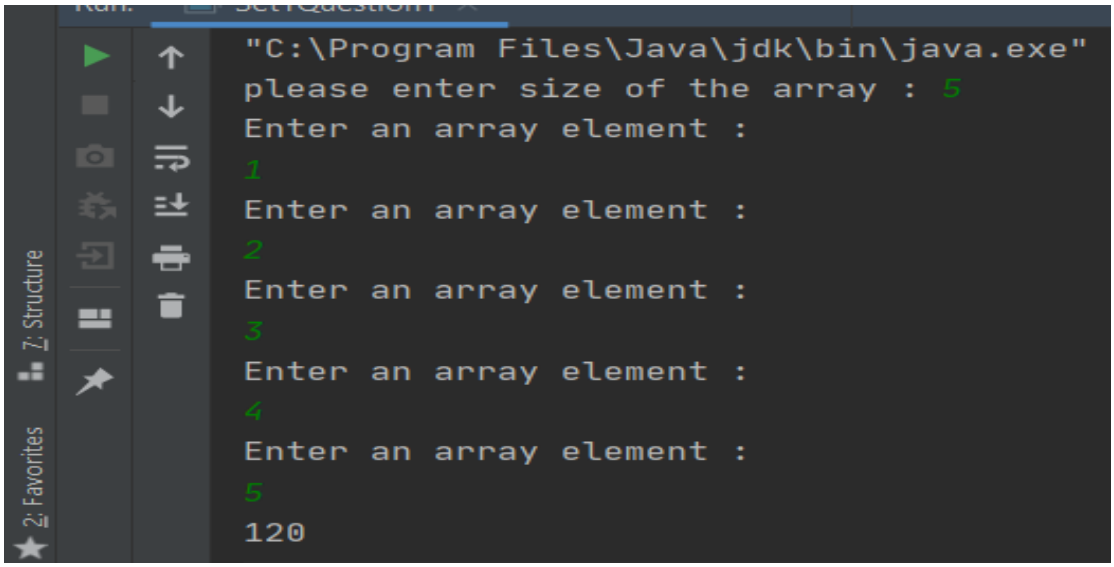
Question: *Consider an array A of size N consisting of positive integers. Write a Java program to find and print the product of all the number in this array Modulo 10^9+7.*

Code:

```
import java.util.Arrays;

import java.util.Scanner;



public class Set1Question1 {

   public static void main(String[] args)

   {

      int n;

      System.out.print("please enter size of the array : ");

      Scanner input = new Scanner(System.in);

      n = input.nextInt();

      int array[] = new int[n];

      int i;

      for (i = 0; i < n;i++)

      {

         System.out.println("Enter an array element : ");

         array[i] = input.nextInt();

      }

      double answer = 1;
```

```
        for(i = 0;i < n;i++)
        {
           answer = ((answer) * (array[i])) % (Math.pow(10,9)/7) ;
        }
        System.out.println((int)answer);


    }
}
```

Output:



Question: *Indian army is going to do a surprise attack on one of its enemies' country. The President of India, the Supreme Commander of the Indian Army will be sending an alert message to all its commanding centers. As enemy would be monitoring the message, Indian army is going to encrypt (cipher) the message using basic encryption technique. A decoding key 'K' (number) would be sent secretly.*

You are assigned to develop a cipher program to encrypt the message. Your cipher must rotate every character in the message by a fixed number making it unreadable by enemies.

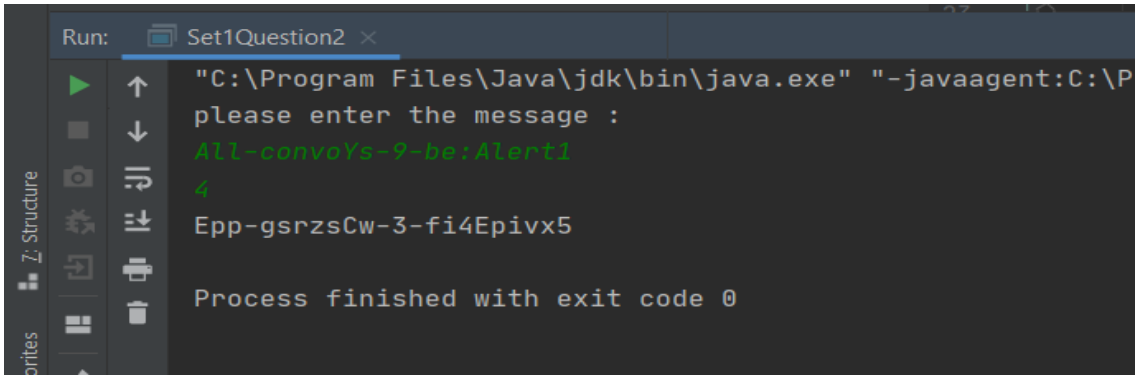
Given a single line of string 'S' containing alpha, numeric and symbols, followed by a number '0<=N<=1000'. Encrypt and print the resulting string.

Code:

```
import java.util.Scanner;



public class Set1Question2 {
   public static void main(String[] args){
      int i;
      System.out.println("please enter the message : ");
      Scanner input = new Scanner(System.in);
      String s = input.nextLine();
      int key = input.nextInt();
      int keyc = key % 26;
      int keyn = key % 10;
      char[] arr = s.toCharArray();
      for(i = 0;i < s.length();i++)
      {
         if(arr[i] >= 48 && arr[i] <= 58) {
            arr[i] = (char) (((arr[i]- 48 + keyn)%10) + 48);
         }
         else if (arr[i] >= 65 && arr[i] <= 90)
         {
```

```
            arr[i] = (char) (((arr[i] - 65 + keyc)%26) + 65);
        }
        else if (arr[i] >= 97 && arr[i] <= 122)
        {
            arr[i] = arr[i] = (char) (((arr[i] - 97 + keyc)%26) + 97);
        }
        else {
            arr[i] = arr[i];
        }
    }
    String str = new String(arr);
    System.out.println(str);
  }
}
```

Output:



SET-3

Question: *X's birthday is in next month. This time he is planning to invite N of his friends. He wants to distribute some chocolates to all of his friends after party. He went to a shop to buy a packet of chocolates.*

At chocolate shop, each packet is having different number of chocolates. He wants to buy such a packet which contains number of chocolates, which can be distributed equally among all of hi Mr. s friends. Write a Java program to help Mr. X to buy such a packet.

Code:

```
import java.util.*;

public class eval1 {

public static void main(String[] args)

{

Scanner scan= new Scanner(System.in);

int t;//test cases

int n=0;

int m=0;

System.out.println("Enter the number of Test Cases:");

t = scan.nextInt();

for(int i=0; i<t; i++)

{

System.out.println("Enter the number of friends");

n = scan.nextInt();

System.out.println("Enter the number of chocolates");

m = scan.nextInt();

if(m % n==0)

{

System.out.println("Yes");

}
```

```
else
{
System.out.println("No");
}
}
}
}
```

Output:

```
Enter the number of TEST CASES:
1
Enter the number of friends
6
Enter the number of chocolates
18
Yes
```

Question: *Read an array of integers of size N and Write a Java program to print the sum of the elements in the array, keeping in mind that some of those integers may be quite large.*

Code:

```
import java.util.*;
public class SET3Q2 {
public static void main(String[] args)
{
Scanner scan = new Scanner(System.in);
int n;
long sum = 0;
System.out.println("Enter the size of the array:");
n = scan.nextInt();
```

```
long[] longArray = new long[n];
System.out.println("Enter the elements:");
for (int i=0; i<longArray.length; i++)
{
longArray[i] = scan.nextLong();
sum = sum + longArray[i];
}
System.out.println("Sum of the array elements is:"+ sum);
}
}
```

Output:

```
Enter the size of the array:
5
Enter the elements:
1000001
1000002
1000003
1000004
1000000
Sum of the array elements is:5000010
```