Practical No. 6: The problem to rearrange positive and negative numbers in an array .
Method: This approach moves all negative numbers to the beginning and positive numbers to the end but changes the order of appearance of the elements of the array.

Source Code:

```java
package CODES.Java.Himanshu_Raturi;

import java.util.Scanner;

public class Q6
{
    public static void main(String args[])
    {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter n: ");
        int n = sc.nextInt();
        int arr[] = new int[n];
        System.out.print("Input: ");
        for(int i = 0 ; i < n ; i++)
        {
            arr[i] = sc.nextInt();
        }
        int first = 0;
        for(int i = 0; i < n ; i++)
        {
            if(arr[i] < 0 )
            {
                int temp = arr[i];
                arr[i] = arr[first];
                arr[first] = temp;
                first++;
            }
        }
```
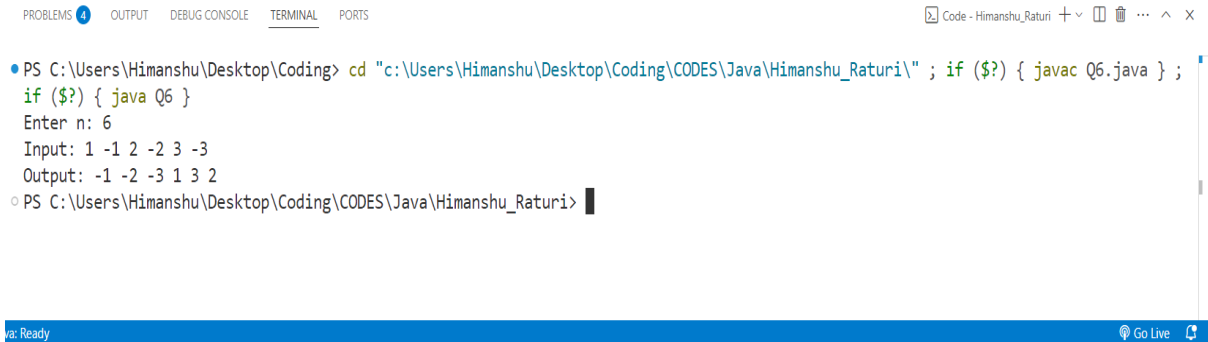
```java
        System.out.print("Output: ");

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

        {

            System.out.print(arr[i] + " ");

        }

        sc.close();

    }

}
```

Output:

```
PS C:\Users\Himanshu\Desktop\Coding> cd "c:\Users\Himanshu\Desktop\Coding\CODES\Java\Himanshu_Raturi\" ; if ($?) { javac Q6.java } ;
if ($?) { java Q6 }
Enter n: 6
Input: 1 -1 2 -2 3 -3
Output: -1 -2 -3 1 3 2
PS C:\Users\Himanshu\Desktop\Coding\CODES\Java\Himanshu_Raturi>
```

va: Ready   Go Live

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Practical No. 7: Program to find the saddle point coordinates in a given matrix. A saddle point is an element of the matrix, which is the minimum element in its row and the maximum in its column.

Source Code:

```java
package CODES.Java.Himanshu_Raturi;

import java.util.Scanner;

public class Q7 {
    public static void main(String args[])
    {
        Scanner sc=new Scanner(System.in);
        System.out.println("Enter the number of rows");
        int rows=sc.nextInt();
        System.out.println("Enter the number of column");
        int columns=sc.nextInt();
        int arr[][]=new int[rows][columns];
        System.out.println("Enter the elements in the array ");
        for(int i=0;i<rows;i++)
        {
            for(int j=0;j<columns;j++)
            {
                arr[i][j]=sc.nextInt();

            }
        }
        for(int i=0;i<rows;i++)
        {
            int min=arr[i][0];
            int colindex=0;
            for(int j=0;j<columns;j++)
            {
```

```java
            if(arr[i][j]<min)

            {

               min=arr[i][j];

               colindex=j;

            }

         }

         int max=arr[0][colindex];

         for(int k=0;k<rows;k++)

         {

            if(arr[k][colindex]>max)

            {

               max=arr[k][colindex];

            }

         }

         if(min==max)

         {

            System.out.println("Saddle Point = "+min );

            break;

         }

      }

      sc.close();

   }


}
```
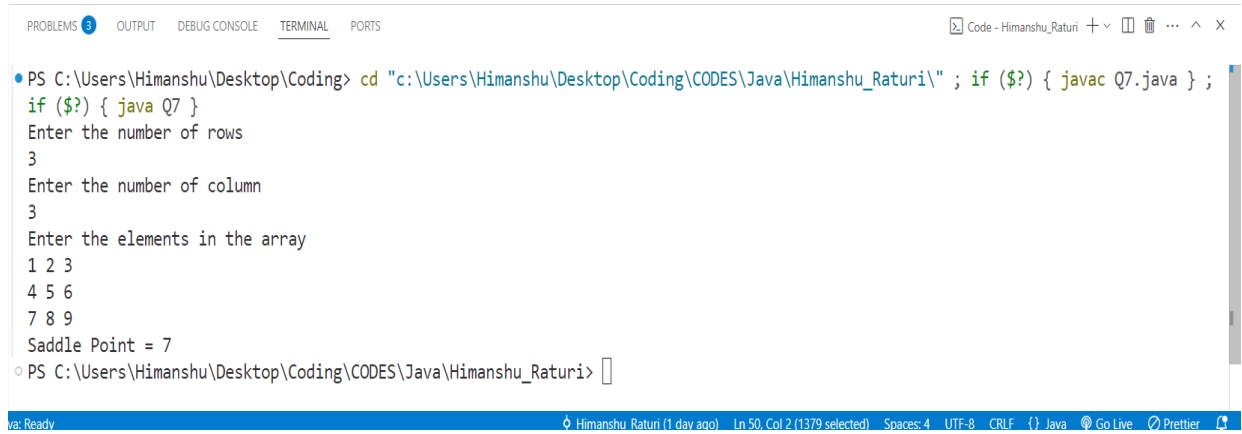
OUTPUT:


```
PROBLEMS 3   OUTPUT   DEBUG CONSOLE   TERMINAL   PORTS

● PS C:\Users\Himanshu\Desktop\Coding> cd "c:\Users\Himanshu\Desktop\Coding\CODES\Java\Himanshu_Raturi\" ; if ($?) { javac Q7.java } ;
  if ($?) { java Q7 }
  Enter the number of rows
  3
  Enter the number of column
  3
  Enter the elements in the array
  1 2 3
  4 5 6
  7 8 9
  Saddle Point = 7
○ PS C:\Users\Himanshu\Desktop\Coding\CODES\Java\Himanshu_Raturi> |
```

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Practical No. 8: Program to find all the patterns of 0(1+)0 in the given string. Given a string containing 0's and 1's, find the total number of 0(1+)0 patterns in the string and output it. 0(1+)0 - There should be at least one '1' between the two 0's.

Source Code:

```
package CODES.Java.Himanshu_Raturi;

import java.util.Scanner;

public class Q8

{

    public static void main(String args[])

    {

        String str;

        Scanner sc = new Scanner(System.in);

        System.out.print("Enter a string: ");

        str = sc.nextLine();

        //String str = new String("01101111010");

        int count = 0 ;

        for(int i =0 ; i < str.length() - 1; i++)

        {

            if(str.charAt(i) == '0' && str.charAt(i+1) == '1')

            {

                count++;

            }

        }

        System.out.println(count);

        sc.close();

    }

}
```

Output:


```
PROBLEMS 3   OUTPUT   DEBUG CONSOLE   TERMINAL   PORTS

PS C:\Users\Himanshu\Desktop\Coding> cd "c:\Users\Himanshu\Desktop\Coding\CODES\Java\Himanshu_Raturi\" ; if ($?) { javac Q8.java } ;
if ($?) { java Q8 }
Enter a string: 01101111010
3
PS C:\Users\Himanshu\Desktop\Coding\CODES\Java\Himanshu_Raturi> 
```

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Practical No. 9: Write a java program to create a class named 'Bank '
with the following data members:
 Name of depositor
 Address of depositor
 Account Number
 Balance in account

Class 'Bank' has a method for each of the following:
1 - Generate a unique account number for each
depositor
For first depositor, account number will be 1001, for
second depositor it will be 1002 and so on
2 - Display information and balance of depositor
3 - Deposit more amount in balance of any depositor
4 - Withdraw some amount from balance deposited
5 - Change address of depositor

Source code:

```java
package CODES.Java.Himanshu_Raturi;

import java.util.Scanner;

public class Q9_Bank
{
String name , address ;
int accno;
double balance;
void setName(String name)
{
   this.name = name;
}
void setAddress(String address)
{
   this.address = address;
}
void setAccno(int i)
{
```

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```java
    this.accno = accno + 1001 + i;

}
void setBalance(double balance)

{

    this.balance = balance;

}
int getacc()

{

    return accno;

}
void display() {
System.out.println("Name: " + name + "\n" +

            "Address: " + address + "\n" +

            "Account Number: " + accno + "\n" +

            "Balance:INR " + balance);

}


void deposit(int amt)

{

    balance += amt;

    System.out.println("INR " + amt+" has been successfully deposited.\n" + "Total amount is: "+balance);

}
void withdraw(int amt)

{

    if(amt > balance)

    {

        System.out.println("Insufficient Balance availble.");

    }else
```

```java
    {
        balance -= amt;
        System.out.println(amt+" has been successfully withdrawed.\n" + "Total amount is: "+balance);
    }
}
void changeAddress(String add)
{
    System.out.println("Address has been successfully changed from "+ address + " to " + add);
    address = add;


}
public static void main(String args[])
{
    int n;
    Scanner sc = new Scanner(System.in);
    System.out.print("Enter Number of depositors: ");
    n = sc.nextInt();
    Q9_Bank depositors[] = new Q9_Bank[n];
    for(int i = 0 ; i < n ; i++)
    {
        depositors[i] = new Q9_Bank();
    }
    for(int i = 0 ; i < n; i++)
    {
        String name , address ;
        double balance;
        System.out.println("Enter Details of "  + " user:- " +(1001+i)+":" );
        System.out.print("Enter Name: ");
```

```
        name = sc.next();

        depositors[i].setName(name);

        System.out.print("Enter Address: ");

        address = sc.next();

        depositors[i].setAddress(address);

        depositors[i].setAccno(i);

        System.out.print("Enter Balance: ");

        balance = sc.nextDouble();

        depositors[i].setBalance(balance);

    }

    int choice;


    int accno;

    System.out.print("Enter account number to operate: ");

    accno = sc.nextInt();

    do

    {

    System.out.println("Press:\n" + "1 to Deposit Money\n" + "2 to withdraw money\n" + "3 to
Change addres\n"+ "4 to display Information\n"+ "5 to exit.");

    choice = sc.nextInt();

    switch(choice)

    {

        case 1:

            {

                int amt;

                System.out.println("Enter amount to deposit: ");

                amt = sc.nextInt();

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

                {
```

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```java
            if(depositors[i].getacc() == accno)

            {

               depositors[i].deposit(amt);

               break;

            }

         }

         break;

      }

case 2:

   {

      int amt;

      System.out.println("Enter amount to Withdraw: ");

      amt = sc.nextInt();

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

      {

         if(depositors[i].getacc() == accno)

         {

            depositors[i].withdraw(amt);

            break;

         }

      }

      break;

   }

case 3:

   {

      String add;

      System.out.println("Enter New address: ");

      add = sc.next();

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

```java
                {
                    if(depositors[i].getacc() == accno)
                    {
                        depositors[i].changeAddress(add);
                        break;
                    }
                }
                break;
            }
        case 4:
            {
                for(int i = 0 ; i < n ;i++)
                {
                    if(depositors[i].getacc() == accno)
                    {
                        depositors[i].display();
                        break;
                    }
                }
                break;
            }
        }
    }while(choice != 5);
    System.out.println("Exiting System.Thank you......");
    sc.close();
    }
}
```

Output:

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```
3 to Change addres
4 to display Information
5 to exit.
3
Enter New address:
dehradun
Address has been successfully changed from haridwar to dehradun
Press:
1 to Deposit Money
2 to withdraw money
3 to Change addres
4 to display Information
5 to exit.
4
Name: Bhaumik
Address: dehradun
Account Number: 1002
Balance:INR 7000.0
Press:
1 to Deposit Money
2 to withdraw money
3 to Change addres
4 to display Information
5 to exit.
5
Exiting System.Thank you......
PS C:\Users\Himanshu\Desktop\Coding\CODES\Java\Himanshu_Raturi>
```

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