

ANS 1:

```
import java.util.Scanner;

class Prac
{
    public static void main(String sss[]){
        Scanner sc=new Scanner(System.in);
        int arr1[][],arr2[][],row,column,val;
        System.out.println("Enter the number of rows and columns of matrix:");
        row=sc.nextInt();
        column=sc.nextInt();
        arr1=new int[row][column];
        arr2=new int[row][column];
        for(int i=0;i<row;i++){
            for(int j=0;j<column;j++){
                System.out.println("Enter the value of element:");
                val=sc.nextInt();
                arr1[i][j]=val;
            }
        }
        for(int i=0;i<row;i++){
            for(int j=0;j<column;j++){
                System.out.print(arr1[i][j]+"\\t");

            }
            System.out.print("\\n");
        }
        for(int i=0;i<row;i++){
            for(int j=0;j<column;j++){
                arr2[i][j]=arr1[j][i];
            }
        }
    }
}
```

```

System.out.println("Trnsposed matrix:");

for(int i=0;i<row;i++){

    for(int j=0;j<column;j++){

        System.out.print(arr2[i][j]+"\\t");

    }

    System.out.print("\\n");

}

}
}

```

The screenshot shows a Windows Command Prompt window titled "Command Prompt". The user has entered the number of rows and columns as 3, and then entered the elements of a 3x3 matrix row by row: 1, 2, 3 for the first row; 4, 5, 6 for the second row; and 7, 8, 9 for the third row. The program then displays the original matrix and its transposed version.

```

Command Prompt
Enter the number of rows and columns of matrix:
3
Enter the value of element:
1
Enter the value of element:
2
Enter the value of element:
3
Enter the value of element:
4
Enter the value of element:
5
Enter the value of element:
6
Enter the value of element:
7
Enter the value of element:
8
Enter the value of element:
9
1      2      3
4      5      6
7      8      9
Trnsposed matrix:
1      4      7
2      5      8
3      6      9
D:\Java programs>

```

ANS 2:

```
import java.util.Scanner;

class CircleDemo{

    static Scanner sc=new Scanner(System.in);

    static double radius,area,perimeter;

    static void getr(){

        System.out.println("Enter the value of the radius:");

        radius=sc.nextDouble();

    }

    static void area(){

        area=3.14*radius*radius;

    }

    static void perimeter(){

        perimeter=2*3.14*radius;

    }

    static void printd(){

        System.out.println("radius:"+radius);

        System.out.println("area:"+area);

        System.out.println("perimeter:"+perimeter);

    }

    public static void main(String args[]){

        getr();

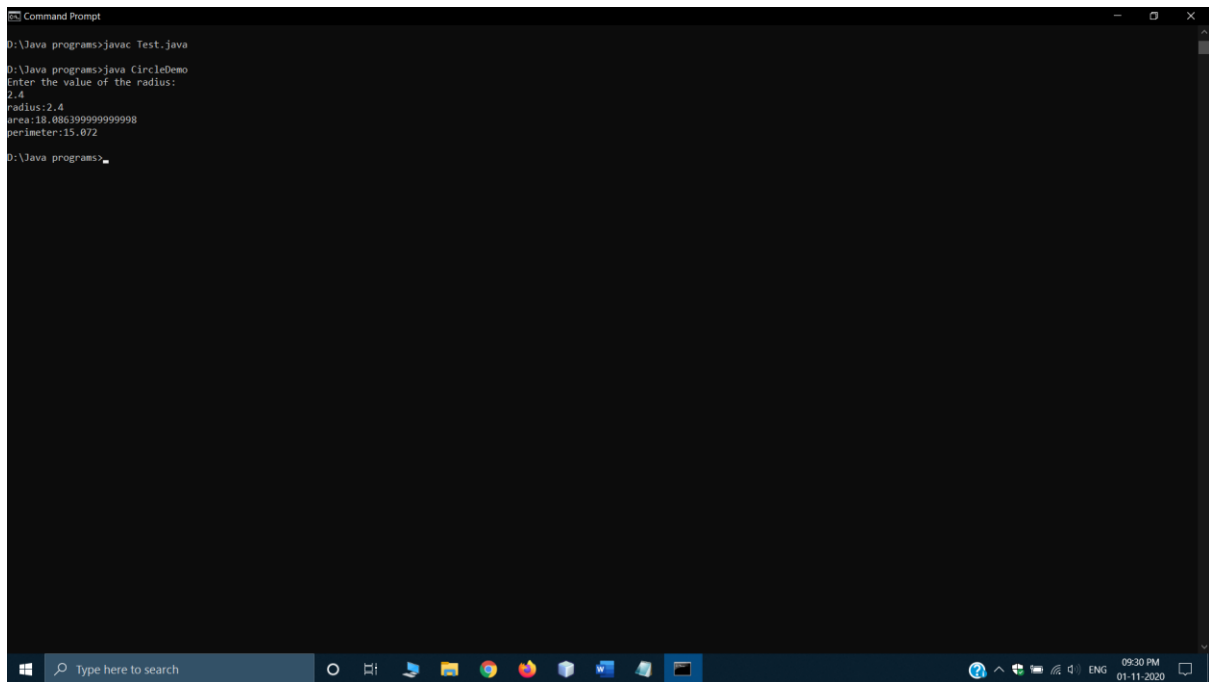
        area();

        perimeter();

        printd();

    }

}
```

A screenshot of a Windows Command Prompt window. The title bar says "Command Prompt". The command prompt shows the following text:

```
D:\Java programs>javac Test.java
D:\Java programs>java CircleDemo
Enter the value of the radius:
2.4
radius:2.4
area:18.488399999999998
perimeter:15.072
D:\Java programs>
```

The window has a standard Windows taskbar at the bottom with the search bar, task view button, and several application icons. The system tray on the right shows the date and time as 09:30 PM on 01-11-2020.

ANS 3:

```
import java.util.Scanner;

class actor{
    int no_of_movies;
    int years_of_exp;
    String name;
    int id;
    double avg=0;

    Scanner sc = new Scanner(System.in);

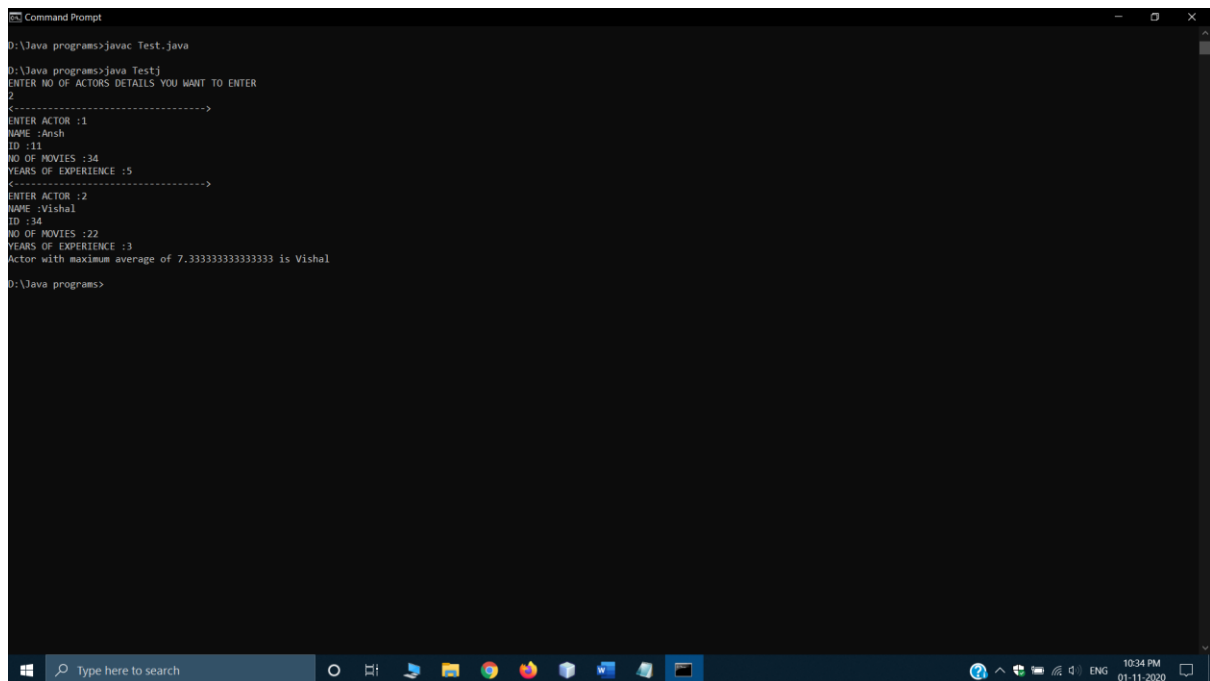
    void accept(){
        System.out.print("NAME :");
        name = sc.next();
        System.out.print("ID :");
        id = sc.nextInt();
        System.out.print("NO OF MOVIES :");
        no_of_movies = sc.nextInt();
        System.out.print("YEARS OF EXPERIENCE :");
        years_of_exp = sc.nextInt();
    }
}
```

```
avg=(double)no_of_movies/years_of_exp;
}
}
```

```
class Testj{
public static void main(String ss[]){
int n;
String maxname=null;
double maxavg=0.0;
Scanner sc = new Scanner(System.in);
System.out.println("ENTER NO OF ACTORS DETAILS YOU WANT TO ENTER");
n = sc.nextInt();
actor a1[] = new actor[n];
for(int i=0;i<n;i++){
System.out.println("<----->");
System.out.println("ENTER ACTOR :"+(i+1));
a1[i] = new actor();
a1[i].accept();

}
for(int i=1;i<n;i++){
if(a1[i].avg>a1[i-1].avg){
maxavg=a1[i].avg;
maxname=a1[i].name;
}else{
maxavg=a1[i-1].avg;
maxname=a1[i-1].name;
}
}
System.out.println("Actor with maximum average of "+ maxavg +" is "+ maxname);
```

```
}  
  
}
```



```
Command Prompt  
D:\Java programs>javac Test.java  
D:\Java programs>java Test  
ENTER NO OF ACTORS DETAILS YOU WANT TO ENTER  
2  
----->  
ENTER ACTOR :1  
NAME :Ansh  
ID :11  
NO OF MOVIES :34  
YEARS OF EXPERIENCE :5  
----->  
ENTER ACTOR :2  
NAME :Vishal  
ID :34  
NO OF MOVIES :22  
YEARS OF EXPERIENCE :3  
Actor with maximum average of 7.333333333333333 is Vishal  
D:\Java programs>
```

ANS 5:

```
import java.util.Scanner;
```

```
class Prac
```

```
{
```

```
    public static void main(String sss[])
```

```
    {
```

```
        Scanner sc=new Scanner(System.in);
```

```
        int full[][] ,pos[],neg[],row,column,val,c1=0,c2=0,c3=0;
```

```
        int temp1=0,temp2=0,temp3=0;
```

```
        System.out.println("Enter the number of rows and columns:");
```

```
        row=sc.nextInt();
```

```
        column=sc.nextInt();
```

```
        full=new int[row][column];
```

```
        pos=new int[row*column];
```

```

neg=new int[row*column];
for(int i=0;i<row;i++){
    for(int j=0;j<column;j++){
        System.out.println("Enter the value of element:");
        val=sc.nextInt();
        full[i][j]=val;
    }
}

for(int i=0;i<row;i++){
    for(int j=0;j<column;j++){
        if(full[i][j]>0){
            pos[temp1]=full[i][j];
            c1++;
            temp1++;
        }
        else if(full[i][j]<0){
            neg[temp2]=full[i][j];
            c2++;
            temp2++;
        }
        else if(full[i][j]==0){
            c3++;
            temp3++;
        }
    }
}

System.out.println("positive numbers array:");
for(int i=0;i<temp1;i++){
    System.out.println(pos[i]);
}

System.out.println("negative numbers array:");

```

```

        for(int i=0;i<temp2;i++)

            System.out.println(neg[i]);

System.out.println("Number of positive numbers:"+c1);

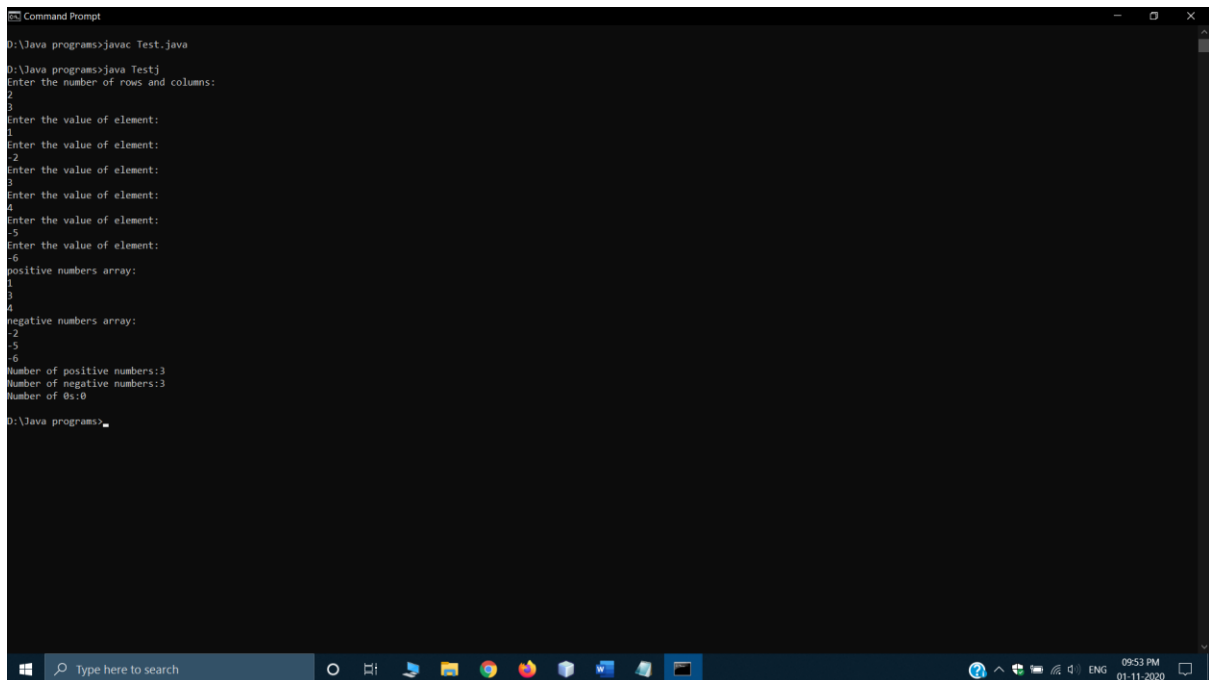
System.out.println("Number of negative numbers:"+c2);

System.out.println("Number of 0s:"+c3);

    }

}

```



```

D:\Java programs>javac Test.java
D:\Java programs>java Testj
Enter the number of rows and columns:
2
3
Enter the value of element:
1
Enter the value of element:
-2
Enter the value of element:
3
Enter the value of element:
4
Enter the value of element:
-5
Enter the value of element:
-6
positive numbers array:
1
3
4
negative numbers array:
-2
-5
-6
Number of positive numbers:3
Number of negative numbers:3
Number of 0s:0
D:\Java programs>

```

ANS 6:

```

import java.util.Scanner;

class Testj{

    public static void main(String args[]){

        Scanner sc=new Scanner(System.in);

        String str;

        int count1=0,count2=0,count3=0;

        System.out.println("Enter the string:");
    }
}

```



```
str=sc.nextLine();
str=str.toLowerCase();
System.out.println("Entered string:"+str);
for(int i=0;i<str.length();i++){
    switch (str.charAt(i)) {
        case 'a':
        case 'e':
        case 'i':
        case 'o':
        case 'u':
            count1++;
            break;
        case ' ':
            count2++;
            break;
        default:
            count3++;
            break;
    }
}
System.out.println("vowels:"+count1);
System.out.println("consonants:"+count3);
System.out.println("spaces:"+count2);
}
}
```

```
Command Prompt
D:\Java programs>javac Test.java
D:\Java programs>java Testj
Enter the string:
Ansh Jain studies in BMS college
Entered string:ansh jain studies in bms college
vowels:10
consonants:17
spaces:5
D:\Java programs>
```

