Date : 30-01-2024

Experiment - 1.1

Aim:

Write a program to reverse the elements of a given 2*2 array. Four integer numbers need to be passed as Command-Line arguments.

Code:

```
public class ReverseArray {
    public static void main(String[] args) {
        int[][] arr = new int[2][2];
        arr[0][0] = Integer.parseInt(args[0]);
        arr[0][1] = Integer.parseInt(args[1]);
        arr[1][0] = Integer.parseInt(args[2]);
        arr[1][1] = Integer.parseInt(args[3]);
        int[][] rev = new int[2][2];
        for (int r=arr.length-1; r>=0; r--) {
            for (int c=arr[0].length-1; c>=0; c--) {
                rev[r][c] = arr[arr.length-1-r][arr.length-1-c];
            }
        }
        for (int r=0; r<rev.length; r++) {
            for (int c=0; c<rev[0].length; c++) {
                System.out.print(rev[r][c] + " ");
            }
            System.out.println();
        }
    }
}
```

Output:

```
PS C:\Users\ankus\OneDrive\Desktop\Java test> javac ReverseArray.java
PS C:\Users\ankus\OneDrive\Desktop\Java test> java ReverseArray 1 2 4 3
3 4
2 1
```

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Experiment - 1.2

Aim:

Write a program to create a method for calculating the area of triangle, circle and rectangle using the concept of method overloading.

Code:

```
class OverloadArea {
   void area(int b, double h) {
      System.out.println("The area of the triangle is " + 0.5 * b * h + " sq units");
   }
   void area(double x, double y) {
      System.out.println("The area of the rectangle is " + x * y + " sq units");
   }
   void area(double x) {
      double z = 3.14 * x * x;
      System.out.println("The area of the circle is " + z + " sq units");
   }
}
class MethodOv {
   public static void main(String args[]) {
      OverloadArea ob = new OverloadArea();
      ob.area(5, 3.8);
      ob.area(11.0, 12.0);
      ob.area(2.5);
   }
}
```

Output:

```
[Running] cd "c:\Users\ankus\OneDrive\Desktop\java test\" && javac
MethodOv.java && java MethodOv
The area of the triangle is 9.5 sq units
The area of the rectangle is 132.0 sq units
The area of the circle is 19.625 sq units
```

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Experiment – 1.3

Aim:

Write a program that can count the number of instances created for the class.

Code:

```
public class CountObject {
    private static int count;
    public CountObject() {
        count++;
    }
    public static void main(String args[]) {
        CountObject ob1 = new CountObject();
        CountObject ob2 = new CountObject();
        CountObject ob3 = new CountObject();
        CountObject ob4 = new CountObject();
        CountObject ob5 = new CountObject();
        System.out.print("Total Number of Objects: " + CountObject.count);
    }
}
```

Output:

```
PS C:\Users\ankus\OneDrive\Desktop\java test> javac CountObject.java
PS C:\Users\ankus\OneDrive\Desktop\java test> java CountObject
Total Number of Objects: 5
```

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Experiment - 1.4

Aim:

Write a Java Program to get the cube of a given number using the static method.

Code:

```
import java.util.Scanner;
public class FindingCube {
  public static void main(String args[]){
    System.out.println("Enter a number ::");
    Scanner sc = new Scanner(System.in);
    int num = sc.nextInt();
    System.out.println("Cube of the given number is "+(num*num*num));
    sc.close();
  }
}
```

Output:

```
PS C:\Users\ankus\OneDrive\Desktop\java test> javac FindingCube.java
PS C:\Users\ankus\OneDrive\Desktop\java test> java FindingCube
Enter a number ::
4
Cube of the given number is 64
```

Date : 30-01-2024

Experiment - 1.5

Aim:

Create a class Box that uses a parameterized constructor to initialize the dimensions of a box. The dimensions of the Box are width, height, depth. The class should have a method that can return the volume of the box. Create an object of the Box class and test the functionalities.

Code:

```
public class Box {
   double h, w, d;
   Box(double height, double width, double depth) {
      h=height;
      w=width;
      d=depth;
      System.out.println("Height : " + h);
      System.out.println("Width : " + w);
      System.out.println("Depth : " + d);
   }
   double volume() {
      double v = h * w * d;
      return v;
   }
   public static void main(String[] args) {
      Box bc = new Box(40.7, 10.2, 2.5);
      System.out.println("Volume of the box is : " + bc.volume());
   }
}
```

Output:

```
PS C:\Users\ankus\OneDrive\Desktop\java test> javac Box.java
PS C:\Users\ankus\OneDrive\Desktop\java test> java Box
Height : 40.7
Width : 10.2
Depth : 2.5
Volume of the box is : 1037.85
```