LAB 1

1.) Write a program in Java to print “Hello World”.

```
class First {
public static void main ( String args[ ]){
System.out.println( "Hello World" );
}
}
```

2.) Write a program in Java to print these patterns:

(i)

```
 public class PyramidPattern
{
public static void main(String args[])
{
int i, j, row = 6;
for (i=0; i<row; i++)
{
for (j=row-i; j>1; j--)
{
System.out.print(" ");
}
for (j=0; j<=i; j++ )
{
System.out.print("* ");
}
System.out.println();
}
}
}
```

(ii)

```
import java.io.*;
class Pattern {
   public static void main(String[] args){
```

```
        int number = 7;
        int i = number, j;
        while (i > 0) {
            j = 0;
            while (j++ < number - i) {
                System.out.print(" ");
            }
            j = 0;
            while (j++ < (i * 2) - 1) {
                System.out.print("*");
            }
            System.out.println();
            i--;
        }
    }
}
```

3.) Write a program in Java to print the table of a number received through command.

```
import java.util.Scanner;
public class TableExample
{
public static void main(String args[])
{
Scanner sc = new Scanner(System.in);
System.out.print("Enter number: ");
int num=sc.nextInt();
for(int i=1; i <= 10; i++)
{
System.out.println(num+" * "+i+" = "+num*i);
}
}
}
```

LAB 2

1.) Test For Inheritance

```
class Teacher {
   String designation = "Teacher";
   String collegeName = "Beginnersbook";
   void does(){
         System.out.println("Teaching");
   }
}

class PhysicsTeacher extends Teacher{
   String mainSubject = "Physics";
   public static void main(String args[]){
         PhysicsTeacher obj = new PhysicsTeacher();
         System.out.println(obj.collegeName);
         System.out.println(obj.designation);
         System.out.println(obj.mainSubject);
         obj.does();
   }
}
```

2.) Test For Overriding

```
class Vehicle{
  void run(){System.out.println("Vehicle is running");}
}
class Bike extends Vehicle{
  public static void main(String args[]){
  Bike obj = new Bike();
  obj.run();
  }
}
```

3.) Test For Polymorphism

```
class Polygon {
  public void render() {
    System.out.println("Rendering Polygon...");
  }
}
class Square extends Polygon {
  public void render() {
    System.out.println("Rendering Square...");
  }
}
class Circle extends Polygon {
  public void render() {
    System.out.println("Rendering Circle...");
  }
}
class Main {
  public static void main(String[] args) {
    Square s1 = new Square();
    s1.render();
    Circle c1 = new Circle();
    c1.render();
  }
}
```

4.) Parameterized Constructors

```
class Example{
   Example(){
      System.out.println("Default constructor");
   }
   Example(int i, int j){
      System.out.println("constructor with Two parameters");
```

```
    }
    Example(int i, int j, int k){
        System.out.println("constructor with Three parameters");
    }
    Example(int i, String name){
        System.out.println("constructor with int and String param");
    }
    public static void main(String args[]){
        Example obj = new Example();
        Example obj2 = new Example(12, 12);
        Example obj3 = new Example(1, 2, 13);
        Example obj4 = new Example(1,"BeginnersBook");
    }
}
```