Assignment 5) Write a program that demonstrate 2D shapes on frames.

Step 1: Open Eclipse and Create a New Java Project

1. Open Eclipse.
2. Go to **File** > **New** > **Java Project**.
3. Enter a project name (e.g., ShapeDemoProject).
4. Click **Finish**.

Step 2: Create a New Package

1. In the **Package Explorer** (left panel), right-click on the src folder of your new project.
2. Select **New** > **Package**.
3. Name the package (e.g., com.example.shapes) and click **Finish**.

Step 3: Create a New Java Class

1. Right-click on the package you just created (e.g., com.example.shapes).
2. Select **New** > **Class**.
3. In the **Name** field, type ShapeDemo.
4. Check the box for **public static void main(String[] args)** if you want Eclipse to auto-generate the main method.
5. Click **Finish**.

Step 4:import the

Import: JPanel, Graphics g , Color, JFrame,

For importing above attributes you must take cursor to it then right click , select import.

```
package demo;

import java.awt.Color;

import java.awt.Graphics;

import javax.swing.JFrame;

import javax.swing.JPanel;

public class ShapeDemo extends JPanel {

    // Override the paintComponent method to draw 2D shapes

    @Override

    protected void paintComponent(Graphics g) {

        super.paintComponent(g); // Call the superclass method to ensure proper
rendering
```

```java
        // Draw a rectangle
        g.setColor(Color.BLUE);
        g.fillRect(50, 50, 200, 100); // x, y, width, height
        // Draw an oval (circle in this case)
        g.setColor(Color.RED);
        g.fillOval(300, 50, 100, 100); // x, y, width, height
        // Draw a line
        g.setColor(Color.GREEN);
        g.drawLine(50, 200, 350, 200); // x1, y1, x2, y2
        // Draw a triangle (polygon)
        int[] xPoints = {200, 250, 300};
        int[] yPoints = {250, 150, 250};
        g.setColor(Color.MAGENTA);
        g.fillPolygon(xPoints, yPoints, 3); // x points, y points, number of
points
    }
    // Main method to create the frame and display the panel
    public static void main(String[] args) {
        // Create a frame to hold the panel
        JFrame frame = new JFrame("2D Shapes Demo");
        // Set up the frame
        frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        frame.setSize(500, 400); // Width and height of the window
        // Create an instance of the ShapeDemo panel and add it to the frame
        ShapeDemo panel = new ShapeDemo();
        frame.add(panel);
```

```java
        // Make the frame visible

        frame.setVisible(true);

    }

}
```