Practical no 4

AIM: Texturing (Texture the Triangle using Direct 3D 11)

Steps:-

1. Create a new project and select a windows form application(.Net Framework 2.0-3.5).

2. Right click on the properties → click on open → click build → select platform target → x86 or add new

3. Click on view code on form 1(design) or press F7.

4. Go to the solution explorer → right click on project name → select add reference .

5. Click on browse and add the required dll files.

6. Code the required files.

7. Add the paint method for changing the appearance .

8. Change the window name and icon if possible.

9. Disable the Exception Settings option such as LoaderLock.

10. Run the app.

Code:-

Program.cs file

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Windows.Forms;
using Microsoft.DirectX.Direct3D;

namespace WindowsFormsApp6
{
    static class Program
    {

        [STAThread]
        static void Main()
        {
            Application.EnableVisualStyles();
            Application.SetCompatibleTextRenderingDefault(false);
            Application.Run(new Form1());
        }
    }
}
```

Form1.cs file

```csharp
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Text;
using System.Windows.Forms;
using Microsoft.DirectX.Direct3D;
using Microsoft.DirectX;
namespace WindowsFormsApp11
{
    public partial class Form1 : Form
    {
        private Microsoft.DirectX.Direct3D.Device device;
        private CustomVertex.PositionTextured[] vertex =
            new CustomVertex.PositionTextured[3];
        private Texture tex;
        public Form1()
        {
            InitializeComponent();
        }

        private void Form1_Load(object sender, EventArgs e)
        {
            PresentParameters pp = new PresentParameters();
            pp.Windowed = true;
            pp.SwapEffect = SwapEffect.Discard;
            device = new Device(0, DeviceType.Hardware, this,
                CreateFlags.SoftwareVertexProcessing, pp);
            device.Transform.Projection = Matrix.PerspectiveFovLH(
                3.14f / 4, device.Viewport.Width / device.Viewport.Height,
                        1f, 1000f);
            device.Transform.View = Matrix.LookAtLH(
                new Vector3(0, 0, 3), new Vector3(), new Vector3(0, 1, 0));
            device.RenderState.Lighting = false;
            vertex[0] = new CustomVertex.PositionTextured(new Vector3(0, 1, 1), 0, 0);
            vertex[1] = new CustomVertex.PositionTextured(new Vector3(-1, -1, 1), -1, 0);
            vertex[2] = new CustomVertex.PositionTextured(new Vector3(1, -1, 1), 0, -1);
            tex = new Texture(device, new Bitmap("C:\\Users\\BlackBot\\source\\repos\\Win-
dowsFormsApp10\\shape1.jpg"), 0, Pool.Managed);
        }
         //performed by krunal 713
        private void Form1_Paint(object sender, PaintEventArgs e)
        {
            device.Clear(ClearFlags.Target, Color.White, 1, 0);
            device.BeginScene();
            device.SetTexture(0, tex);
            device.VertexFormat = CustomVertex.PositionTextured.Format;
            device.DrawUserPrimitives(PrimitiveType.TriangleList,
                    vertex.Length / 3, vertex);
            device.EndScene();
            device.Present();
        }
    }
}
```

Output: