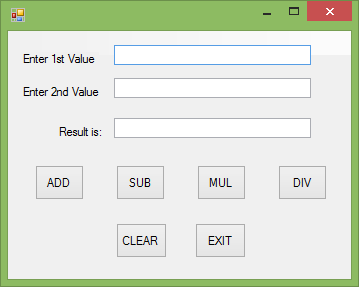
# Lecture # 12: Objective:

* Three Layers Architecture



CALCULATOR

Biz Layer

using System;

using System.Collections.Generic; using System.Linq;

using System.Text;

namespace calculationApplication.BizLayer

{

public class clsForm1

{

double v1, v2, res;

public double propRes

{

get { return res; } set { res = value; }

}

public double propV2

{

get { return v2; } set { v2 = value; }

}

public double propV1

{

get { return v1; }

set { v1 = value; }

}

public void ADD()

{

propRes = propV1 + propV2;

}

public void SUB()

{

propRes = propV1 - propV2;

}

public void MUL()

{

propRes = propV1 \* propV2;

}

public void DIV()

{

if (propV2 != 0)

{

propRes = propV1 + propV2;

}

}

}

}

# PRESENTATION LAYER:

using System;

using System.Collections.Generic; using System.ComponentModel; using System.Data;

using System.Drawing; using System.Linq; using System.Text;

using System.Windows.Forms;

using calculationApplication.BizLayer;

namespace calculationApplication

{

public partial class Form1 : Form

{

public Form1()

{

InitializeComponent();

}

private void btnAdd\_Click(object sender, EventArgs e)

{

if (txtVal1.Text == "")

{

MessageBox.Show("Enter value 1"); txtVal1.Focus();

}

else if (txtVal2.Text == "")

{

MessageBox.Show("Enter 2nd value"); txtVal2.Focus();

}

else

{

clsForm1 objF = new clsForm1(); objF.propV1 = int.Parse(txtVal1.Text); objF.propV2 = int.Parse(txtVal2.Text); objF.ADD();

txtRes.Text = objF.propRes.ToString();

}

}

private void btnSub\_Click(object sender, EventArgs e)

{

if (txtVal1.Text == "")

{

MessageBox.Show("Enter value 1"); txtVal1.Focus();

}

else if (txtVal2.Text == "")

{

MessageBox.Show("Enter 2nd value"); txtVal2.Focus();

}

else

{

clsForm1 objF = new clsForm1(); objF.propV1 = int.Parse(txtVal1.Text); objF.propV2 = int.Parse(txtVal2.Text); objF.SUB();

txtRes.Text = objF.propRes.ToString();

}

}

private void btnMul\_Click(object sender, EventArgs e)

{

if (txtVal1.Text == "")

{

MessageBox.Show("Enter value 1"); txtVal1.Focus();

}

else if (txtVal2.Text == "")

{

MessageBox.Show("Enter 2nd value"); txtVal2.Focus();

}

else

{

clsForm1 objF = new clsForm1(); objF.propV1 = int.Parse(txtVal1.Text); objF.propV2 = int.Parse(txtVal2.Text); objF.MUL();

txtRes.Text = objF.propRes.ToString();

}

}

private void btnDiv\_Click(object sender, EventArgs e)

{

if (txtVal1.Text == "")

{

MessageBox.Show("Enter value 1"); txtVal1.Focus();

}

else if (txtVal2.Text == "")

{

MessageBox.Show("Enter 2nd value"); txtVal2.Focus();

}

else if (int.Parse(txtVal2.Text) == 0)

{

MessageBox.Show("Divide by zero is not allowed"); txtVal2.Focus();

}

else

{

clsForm1 objF = new clsForm1(); objF.propV1 = int.Parse(txtVal1.Text); objF.propV2 = int.Parse(txtVal2.Text); objF.DIV();

txtRes.Text = objF.propRes.ToString();

}

}

private void btnClear\_Click(object sender, EventArgs e)

{

txtVal1.Text = string.Empty; txtVal2.Text = string.Empty; txtRes.Text = string.Empty;

}

private void btnExit\_Click(object sender, EventArgs e)

{

Application.Exit();

}

}

}