**INTERPOLACION**

using System;

using System.Collections.Generic;

using System.ComponentModel;

using System.Data;

using System.Drawing;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

using System.Windows.Forms;

namespace MetodosNumericos2

{

public partial class Form1 : Form

{

public Form1()

{

InitializeComponent();

}

double x,fx,fr,de,f\_xi,p=0;

int G,i,contador=0,j;

private void txtXi\_KeyPress(object sender, KeyPressEventArgs e)

{

if (Char.IsLetter(e.KeyChar) || Char.IsSymbol(e.KeyChar) || Char.IsWhiteSpace(e.KeyChar))

{

e.Handled = true;

return;

}

}

private void label1\_Click(object sender, EventArgs e)

{

}

private void cmb\_SelectedIndexChanged(object sender, EventArgs e)

{

}

string[] Xs;

string[] FXs;

double punto,res,R,FO,R2,R3,R4,num;

int k,t;

double[] Xi;

double[] Rs;

double[,] F;

private void Form1\_Load(object sender, EventArgs e)

{

}

private void button2\_Click(object sender, EventArgs e)

{

Xs = txtXi.Text.Split(',');

FXs = txtFX.Text.Split(',');

int datos = Xs.Length;

for (t = 0; t < datos; t++)

{

for (i = t + 1; i < datos; i++)

{

if (Xs[t] == Xs[i])

{

MessageBox.Show("Hay dos elementos iguales en %d y %d\n"+i.ToString()+" "+t.ToString());

return;

}

}

}

if (txtXi.Text == " " || txtFX.Text == " " || txtPunto.Text == "")

{

MessageBox.Show("Llene todos los campos", "Advertencia", MessageBoxButtons.OK, MessageBoxIcon.Warning);

return;

}

if (Xs.Length != FXs.Length)

{

MessageBox.Show("ingrese la misma cantidad de datos", "Advertencia", MessageBoxButtons.OK, MessageBoxIcon.Warning);

return;

}

else

{

try

{

punto = Convert.ToDouble(txtPunto.Text);

Xi = new double[datos];

F = new double[datos, datos];

for (i = 0; i < datos; i++)

{

Xi[i] = Convert.ToDouble(Xs[i]);

F[0, i] = Convert.ToDouble(FXs[i]);

}

for (j = 1; j < datos; j++)

{

for (i = 0; i < datos - j; i++)

{

F[j, i] = (F[j - 1, i + 1] - F[j - 1, i]) / (Xi[i + j] - Xi[i]);

}

}

}

catch (Exception exc)

{

MessageBox.Show("Ingrese los valores correctamente");

return;

}

txtR.Text = F[j - 1, i - 1].ToString();

R4 = F[0, 0];

MessageBox.Show("Resultado" + R4 + "dsds");

for (i = 1; i < datos; i++)

{

R = (F[i, 0]);

for (k = 0; k < i; k++)

{

R = R \* ((punto) - (Xi[k]));

}

R4 = R4 + R;

MessageBox.Show("Resultado" + R4 + "dsds");

}

txtR2.Text = R4.ToString();

R4 = 0;

}

}

private void button1\_Click(object sender, EventArgs e)

{

/\*for (i = 0; i < G; i++)

{

x = Convert.ToDouble( Microsoft.VisualBasic.Interaction.InputBox("Ingrese xi" + (i + 1)));

Xi[i] = x;

de = Convert.ToDouble(Microsoft.VisualBasic.Interaction.InputBox("Ingrese f(xi)" + (i + 1)));

F[i, i] = de;

}\*/

}

}

}