PROG1017

Memo

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| To: | Cathy Burchill |
| From: | Simon Clifford |
| Date: | December 6, 2022 |
| Re: | Lab 5 |

This lab took about 4-5 hours to finish. The most difficult part was the generate click event. Once I figured out how to use the index in the list box the rest was easy.

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 Lab5

{

public partial class Form1 : Form

{

public Form1()

{

InitializeComponent();

}

const string PROGRAMMER = "Simon Clifford";

private int GetRandom(int min, int max)

{

Random rand = new Random();

int num = rand.Next(min, max);

return num;

}

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

{

this.Text = this.Text +" "+PROGRAMMER;

grpChoose.Visible = false;

grpStats.Visible = false;

grpText.Visible = false;

txtCode.Focus();

int authcode = GetRandom(100000,200000);

lblCode.Text = authcode.ToString();

}

int attempts = 0;

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

{

if (lblCode.Text == txtCode.Text )

{

grpChoose.Visible = true;

grpLogin.Enabled = false;

}

else

{

attempts++;

MessageBox.Show(attempts.ToString()+" incorrect code(s) entered\nTry again - only 3 attempts allowed", PROGRAMMER);

if (attempts > 2 )

{

MessageBox.Show(attempts.ToString() + " attempts to login\nAccount locked - Closing program", PROGRAMMER);

Close();

}

}

}

private void ResetTextGrp()

{

txtString1.Text = "";

txtString2.Text = "";

chkSwap.Checked = false;

AcceptButton = btnJoin;

CancelButton = btnReset;

}

private void ResetStatsGrp()

{

lblSum.Text = "";

lblMean.Text = "";

lblOdd.Text = "";

numHowMany.Value = 10;

lstNum.Items.Clear();

AcceptButton = btnGenerate;

CancelButton = btnClear;

}

private void SetupOption()

{

if (radStats.Checked == true)

{

grpStats.Visible = true;

grpText.Visible = false;

}

if (radText.Checked == true)

{

grpStats.Visible = false;

grpText.Visible = true;

}

}

private void radText\_CheckedChanged(object sender, EventArgs e)

{

SetupOption();

}

private void radStats\_CheckedChanged(object sender, EventArgs e)

{

SetupOption();

}

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

{

ResetTextGrp();

}

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

{

ResetStatsGrp();

}

private void swap(ref string string1, ref string string2)

{

string temp = string1;

string1 = string2;

string2 = temp;

}

private bool CheckInput()

{

bool testData;

if (txtString1.Text == "")

{

testData = false;

}

else

{

testData = true;

}

if (txtString2.Text == "")

{

testData = false;

}

else

{

testData = true;

}

return testData;

}

private void chkSwap\_CheckedChanged(object sender, EventArgs e)

{

if (chkSwap.Checked == true && txtString1.Text != "" && txtString2.Text != "")

{

string string1 = txtString1.Text;

string string2 = txtString2.Text;

swap(ref string1, ref string2);

txtString1.Text = string1;

txtString2.Text = string2;

lblResults.Text = "Strings Have Been Swapped!";

}

}

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

{

if (txtString1.Text != "" && txtString2.Text != "")

{

lblResults.Text = "First String = "+ txtString1.Text

+"\nSecond String = "+txtString2.Text

+"\nJoined = "+txtString1.Text+"-->"+txtString2.Text;

}

}

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

{

if (txtString1.Text != "" && txtString2.Text != "")

{

lblResults.Text = "First String = " + txtString1.Text+"\nCharacters = " +txtString1.TextLength.ToString()

+ "\nSecond String = " + txtString2.Text +"\nCharacters = "+ txtString2.TextLength.ToString();

}

}

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

{

Random rand = new Random(733);

lstNum.Items.Clear();

for (int i = 0; i < numHowMany.Value; i++)

{

int n = rand.Next(1000,5001);

lstNum.Items.Add(n);

}

lblSum.Text = Addlist().ToString("n");

double sum = Convert.ToDouble(lblSum.Text);

double mean = sum / (double)lstNum.Items.Count ;

lblMean.Text = mean.ToString("n2");

lblOdd.Text = CountOdd().ToString();

}

private int Addlist()

{

int i = 0;

int sum = 0;

while (i < lstNum.Items.Count)

{

sum += Convert.ToInt32(lstNum.Items[i]);

i++;

}

return sum;

}

private int CountOdd()

{

int i = 0;

int oddnums = 0;

do

{

if (Convert.ToInt32(lstNum.Items[i])%2 !=0)

{

oddnums++;

}

i++;

} while (i < lstNum.Items.Count);

return oddnums;

}

}

}