# Homework – Week 2 – Programming

Name:

Question 2.1 - Write a program that will ask the user for their first name. The program should then concatenate the name with a message, such as 'Hello Fred. How are you?' and output this string to the user.

## Designer file:

namespace Homework2.\_1

{

partial class Form1

{

/// <summary>

/// Required designer variable.

/// </summary>

private System.ComponentModel.IContainer components = null;

/// <summary>

/// Clean up any resources being used.

/// </summary>

/// <param name="disposing">true if managed resources should be disposed; otherwise, false.</param>

protected override void Dispose(bool disposing)

{

if (disposing && (components != null))

{

components.Dispose();

}

base.Dispose(disposing);

}

#region Windows Form Designer generated code

/// <summary>

/// Required method for Designer support - do not modify

/// the contents of this method with the code editor.

/// </summary>

private void InitializeComponent()

{

this.TBInput = new System.Windows.Forms.TextBox();

this.LBLOutput = new System.Windows.Forms.Label();

this.SuspendLayout();

//

// TBInput

//

this.TBInput.Location = new System.Drawing.Point(13, 13);

this.TBInput.Name = "TBInput";

this.TBInput.Size = new System.Drawing.Size(100, 20);

this.TBInput.TabIndex = 0;

this.TBInput.TextChanged += new System.EventHandler(this.TBInput\_TextChanged);

//

// LBLOutput

//

this.LBLOutput.AutoSize = true;

this.LBLOutput.Location = new System.Drawing.Point(120, 19);

this.LBLOutput.Name = "LBLOutput";

this.LBLOutput.Size = new System.Drawing.Size(0, 13);

this.LBLOutput.TabIndex = 1;

//

// Form1

//

this.AutoScaleDimensions = new System.Drawing.SizeF(6F, 13F);

this.AutoScaleMode = System.Windows.Forms.AutoScaleMode.Font;

this.ClientSize = new System.Drawing.Size(800, 450);

this.Controls.Add(this.LBLOutput);

this.Controls.Add(this.TBInput);

this.Name = "Form1";

this.Text = "Form1";

this.ResumeLayout(false);

this.PerformLayout();

}

#endregion

private System.Windows.Forms.TextBox TBInput;

private System.Windows.Forms.Label LBLOutput;

}

}

## Code file:

using System;

using System.Collections.Generic;

using System.ComponentModel;

using System.Data;

using System.Drawing;

using System.Text;

using System.Windows.Forms;

namespace Homework2.\_1

{

public partial class Form1 : Form

{

public Form1()

{

InitializeComponent();

}

private void TBInput\_TextChanged(object sender, EventArgs e)

{

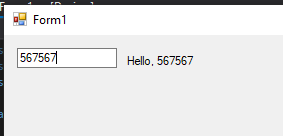
LBLOutput.Text = "Hello, " + TBInput.Text;

}

}

}

## Screenshot of running program:



Question 2.2 - Write a program to enter a temperature in degrees Fahrenheit and display the equivalent temperature in degrees Centigrade. The formula for conversion is Centigrade = (Fahrenheit-32) \* (5/9).

## Designer file:

namespace Homework\_Week2\_Partb

{

partial class Form1

{

/// <summary>

/// Required designer variable.

/// </summary>

private System.ComponentModel.IContainer components = null;

/// <summary>

/// Clean up any resources being used.

/// </summary>

/// <param name="disposing">true if managed resources should be disposed; otherwise, false.</param>

protected override void Dispose(bool disposing)

{

if (disposing && (components != null))

{

components.Dispose();

}

base.Dispose(disposing);

}

#region Windows Form Designer generated code

/// <summary>

/// Required method for Designer support - do not modify

/// the contents of this method with the code editor.

/// </summary>

private void InitializeComponent()

{

this.TBInput1 = new System.Windows.Forms.TextBox();

this.BTNRun = new System.Windows.Forms.Button();

this.LBLOutput = new System.Windows.Forms.Label();

this.SuspendLayout();

//

// TBInput1

//

this.TBInput1.Location = new System.Drawing.Point(12, 12);

this.TBInput1.Name = "TBInput1";

this.TBInput1.Size = new System.Drawing.Size(100, 20);

this.TBInput1.TabIndex = 0;

//

// BTNRun

//

this.BTNRun.Location = new System.Drawing.Point(13, 39);

this.BTNRun.Name = "BTNRun";

this.BTNRun.Size = new System.Drawing.Size(75, 23);

this.BTNRun.TabIndex = 1;

this.BTNRun.Text = "Run";

this.BTNRun.UseVisualStyleBackColor = true;

this.BTNRun.Click += new System.EventHandler(this.BTNRun\_Click);

//

// LBLOutput

//

this.LBLOutput.AutoSize = true;

this.LBLOutput.Location = new System.Drawing.Point(13, 69);

this.LBLOutput.Name = "LBLOutput";

this.LBLOutput.Size = new System.Drawing.Size(41, 13);

this.LBLOutput.TabIndex = 2;

this.LBLOutput.Text = "Celcius";

//

// Form1

//

this.AutoScaleDimensions = new System.Drawing.SizeF(6F, 13F);

this.AutoScaleMode = System.Windows.Forms.AutoScaleMode.Font;

this.ClientSize = new System.Drawing.Size(800, 450);

this.Controls.Add(this.LBLOutput);

this.Controls.Add(this.BTNRun);

this.Controls.Add(this.TBInput1);

this.Name = "Form1";

this.Text = "Form1";

this.ResumeLayout(false);

this.PerformLayout();

}

#endregion

private System.Windows.Forms.TextBox TBInput1;

private System.Windows.Forms.Button BTNRun;

private System.Windows.Forms.Label LBLOutput;

}

}

## Code file:

using System;

using System.Collections.Generic;

using System.ComponentModel;

using System.Data;

using System.Drawing;

using System.Text;

using System.Windows.Forms;

namespace Homework\_Week2\_Partb

{

public partial class Form1 : Form

{

public Form1()

{

InitializeComponent();

}

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

{

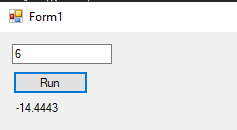
LBLOutput.Text = (((Convert.ToDouble(TBInput1.Text))-32)\*0.55555).ToString();

}

}

}

## Screenshot of running program:



Question 2.3 - Write a program to convert a person's height in inches into centimetres and their weight into kilograms. Display the answers.  [1 inch =2.54 cm and 1 stone = 6.364 kg].

## Designer file:

namespace Homework\_Week2.\_3

{

partial class Form1

{

/// <summary>

/// Required designer variable.

/// </summary>

private System.ComponentModel.IContainer components = null;

/// <summary>

/// Clean up any resources being used.

/// </summary>

/// <param name="disposing">true if managed resources should be disposed; otherwise, false.</param>

protected override void Dispose(bool disposing)

{

if (disposing && (components != null))

{

components.Dispose();

}

base.Dispose(disposing);

}

#region Windows Form Designer generated code

/// <summary>

/// Required method for Designer support - do not modify

/// the contents of this method with the code editor.

/// </summary>

private void InitializeComponent()

{

this.TBInput = new System.Windows.Forms.TextBox();

this.LBLKG = new System.Windows.Forms.Label();

this.BTNKG = new System.Windows.Forms.Button();

this.LBLCm = new System.Windows.Forms.Label();

this.BTNCm = new System.Windows.Forms.Button();

this.SuspendLayout();

//

// TBInput

//

this.TBInput.Location = new System.Drawing.Point(12, 12);

this.TBInput.Name = "TBInput";

this.TBInput.Size = new System.Drawing.Size(100, 20);

this.TBInput.TabIndex = 0;

this.TBInput.TextChanged += new System.EventHandler(this.TBInput\_TextChanged);

//

// LBLKG

//

this.LBLKG.AutoSize = true;

this.LBLKG.Location = new System.Drawing.Point(12, 35);

this.LBLKG.Name = "LBLKG";

this.LBLKG.Size = new System.Drawing.Size(63, 13);

this.LBLKG.TabIndex = 1;

this.LBLKG.Text = "Enter Stone";

this.LBLKG.Click += new System.EventHandler(this.label1\_Click);

//

// BTNKG

//

this.BTNKG.Location = new System.Drawing.Point(118, 30);

this.BTNKG.Name = "BTNKG";

this.BTNKG.Size = new System.Drawing.Size(100, 23);

this.BTNKG.TabIndex = 2;

this.BTNKG.Text = "Convert to KG";

this.BTNKG.UseVisualStyleBackColor = true;

this.BTNKG.Click += new System.EventHandler(this.BTNRun\_Click);

//

// LBLCm

//

this.LBLCm.AutoSize = true;

this.LBLCm.Location = new System.Drawing.Point(12, 61);

this.LBLCm.Name = "LBLCm";

this.LBLCm.Size = new System.Drawing.Size(67, 13);

this.LBLCm.TabIndex = 3;

this.LBLCm.Text = "Enter Inches";

//

// BTNCm

//

this.BTNCm.Location = new System.Drawing.Point(118, 56);

this.BTNCm.Name = "BTNCm";

this.BTNCm.Size = new System.Drawing.Size(100, 23);

this.BTNCm.TabIndex = 4;

this.BTNCm.Text = "Conver to cm";

this.BTNCm.UseVisualStyleBackColor = true;

this.BTNCm.Click += new System.EventHandler(this.BTNCm\_Click);

//

// Form1

//

this.AutoScaleDimensions = new System.Drawing.SizeF(6F, 13F);

this.AutoScaleMode = System.Windows.Forms.AutoScaleMode.Font;

this.ClientSize = new System.Drawing.Size(800, 450);

this.Controls.Add(this.BTNCm);

this.Controls.Add(this.LBLCm);

this.Controls.Add(this.BTNKG);

this.Controls.Add(this.LBLKG);

this.Controls.Add(this.TBInput);

this.Name = "Form1";

this.Text = "Form1";

this.ResumeLayout(false);

this.PerformLayout();

}

#endregion

private System.Windows.Forms.TextBox TBInput;

private System.Windows.Forms.Label LBLKG;

private System.Windows.Forms.Button BTNKG;

private System.Windows.Forms.Label LBLCm;

private System.Windows.Forms.Button BTNCm;

}

}

## Code file:

using System;

using System.Collections.Generic;

using System.ComponentModel;

using System.Data;

using System.Drawing;

using System.Text;

using System.Windows.Forms;

namespace Homework\_Week2.\_3

{

public partial class Form1 : Form

{

public Form1()

{

InitializeComponent();

}

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

{

}

private void TBInput\_TextChanged(object sender, EventArgs e)

{

}

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

{

double inputStone;

inputStone = (double.Parse(TBInput.Text) \* 6.364);

LBLKG.Text = inputStone.ToString();

}

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

{

double inputInches;

inputInches = (double.Parse(TBInput.Text) \* 2.54);

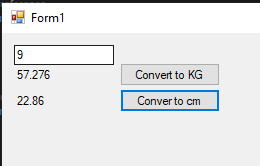
LBLCm.Text = inputInches.ToString();

}

}

}

## Screenshot of running program:



Question 2.4 - Write a program to enter the length, width and depths at the deepest and shallowest end of a rectangular swimming pool. Calculate the volume of water required to fill the pool and display this volume.

## Designer file:

namespace Homework2.\_4

{

partial class Form1

{

/// <summary>

/// Required designer variable.

/// </summary>

private System.ComponentModel.IContainer components = null;

/// <summary>

/// Clean up any resources being used.

/// </summary>

/// <param name="disposing">true if managed resources should be disposed; otherwise, false.</param>

protected override void Dispose(bool disposing)

{

if (disposing && (components != null))

{

components.Dispose();

}

base.Dispose(disposing);

}

#region Windows Form Designer generated code

/// <summary>

/// Required method for Designer support - do not modify

/// the contents of this method with the code editor.

/// </summary>

private void InitializeComponent()

{

this.TBLength = new System.Windows.Forms.TextBox();

this.TBWidth = new System.Windows.Forms.TextBox();

this.TBDepth2 = new System.Windows.Forms.TextBox();

this.TBDepth1 = new System.Windows.Forms.TextBox();

this.LBOutput = new System.Windows.Forms.Label();

this.BTNInput = new System.Windows.Forms.Button();

this.SuspendLayout();

//

// TBLength

//

this.TBLength.Location = new System.Drawing.Point(12, 90);

this.TBLength.Name = "TBLength";

this.TBLength.Size = new System.Drawing.Size(100, 20);

this.TBLength.TabIndex = 0;

this.TBLength.Text = "Enter Length";

//

// TBWidth

//

this.TBWidth.Location = new System.Drawing.Point(12, 64);

this.TBWidth.Name = "TBWidth";

this.TBWidth.Size = new System.Drawing.Size(100, 20);

this.TBWidth.TabIndex = 1;

this.TBWidth.Text = "Enter Width";

//

// TBDepth2

//

this.TBDepth2.Location = new System.Drawing.Point(12, 38);

this.TBDepth2.Name = "TBDepth2";

this.TBDepth2.Size = new System.Drawing.Size(100, 20);

this.TBDepth2.TabIndex = 2;

this.TBDepth2.Text = "Enter Depth2";

this.TBDepth2.TextChanged += new System.EventHandler(this.textBox3\_TextChanged);

//

// TBDepth1

//

this.TBDepth1.Location = new System.Drawing.Point(12, 12);

this.TBDepth1.Name = "TBDepth1";

this.TBDepth1.Size = new System.Drawing.Size(100, 20);

this.TBDepth1.TabIndex = 3;

this.TBDepth1.Text = "Enter Depth1";

//

// LBOutput

//

this.LBOutput.AutoSize = true;

this.LBOutput.Location = new System.Drawing.Point(12, 117);

this.LBOutput.Name = "LBOutput";

this.LBOutput.Size = new System.Drawing.Size(39, 13);

this.LBOutput.TabIndex = 4;

this.LBOutput.Text = "Output";

this.LBOutput.Click += new System.EventHandler(this.LBOutput\_Click);

//

// BTNInput

//

this.BTNInput.Location = new System.Drawing.Point(118, 12);

this.BTNInput.Name = "BTNInput";

this.BTNInput.Size = new System.Drawing.Size(75, 23);

this.BTNInput.TabIndex = 5;

this.BTNInput.Text = "Run";

this.BTNInput.UseVisualStyleBackColor = true;

this.BTNInput.Click += new System.EventHandler(this.BTNInput\_Click);

//

// Form1

//

this.AutoScaleDimensions = new System.Drawing.SizeF(6F, 13F);

this.AutoScaleMode = System.Windows.Forms.AutoScaleMode.Font;

this.ClientSize = new System.Drawing.Size(800, 450);

this.Controls.Add(this.BTNInput);

this.Controls.Add(this.LBOutput);

this.Controls.Add(this.TBDepth1);

this.Controls.Add(this.TBDepth2);

this.Controls.Add(this.TBWidth);

this.Controls.Add(this.TBLength);

this.Name = "Form1";

this.Text = "Form1";

this.ResumeLayout(false);

this.PerformLayout();

}

#endregion

private System.Windows.Forms.TextBox TBLength;

private System.Windows.Forms.TextBox TBWidth;

private System.Windows.Forms.TextBox TBDepth2;

private System.Windows.Forms.TextBox TBDepth1;

private System.Windows.Forms.Label LBOutput;

private System.Windows.Forms.Button BTNInput;

}

}

## Code file:

using System;

using System.Collections.Generic;

using System.ComponentModel;

using System.Data;

using System.Drawing;

using System.Text;

using System.Windows.Forms;

namespace Homework2.\_4

{

public partial class Form1 : Form

{

public Form1()

{

InitializeComponent();

}

private void textBox3\_TextChanged(object sender, EventArgs e)

{

}

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

{

int Volume;

Volume = (((Int32.Parse(TBDepth1.Text) + Int32.Parse(TBDepth2.Text))/2) \* Int32.Parse(TBWidth.Text) \* Int32.Parse(TBLength.Text));

LBOutput.Text = Volume.ToString();

}

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

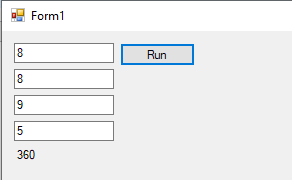
{

}

}

}

## Screenshot of running program:



Question 2.5 - Write a program to enter the length and width of a rectangular-shaped garden. Calculate the area of the garden and the cost of turfing a lawn if a 1m border is around the perimeter of the garden. Assume the cost of turf is £10 per square metre. Display the result of these calculations.

## Designer file:

namespace Homework2.\_5

{

partial class Form1

{

/// <summary>

/// Required designer variable.

/// </summary>

private System.ComponentModel.IContainer components = null;

/// <summary>

/// Clean up any resources being used.

/// </summary>

/// <param name="disposing">true if managed resources should be disposed; otherwise, false.</param>

protected override void Dispose(bool disposing)

{

if (disposing && (components != null))

{

components.Dispose();

}

base.Dispose(disposing);

}

#region Windows Form Designer generated code

/// <summary>

/// Required method for Designer support - do not modify

/// the contents of this method with the code editor.

/// </summary>

private void InitializeComponent()

{

this.LBLOutput = new System.Windows.Forms.Label();

this.BTNInput = new System.Windows.Forms.Button();

this.TBWidth = new System.Windows.Forms.TextBox();

this.TBLength = new System.Windows.Forms.TextBox();

this.LBLWidth = new System.Windows.Forms.Label();

this.LBLLength = new System.Windows.Forms.Label();

this.SuspendLayout();

//

// LBLOutput

//

this.LBLOutput.AutoSize = true;

this.LBLOutput.Location = new System.Drawing.Point(12, 61);

this.LBLOutput.Name = "LBLOutput";

this.LBLOutput.Size = new System.Drawing.Size(39, 13);

this.LBLOutput.TabIndex = 0;

this.LBLOutput.Text = "Output";

//

// BTNInput

//

this.BTNInput.Location = new System.Drawing.Point(163, 10);

this.BTNInput.Name = "BTNInput";

this.BTNInput.Size = new System.Drawing.Size(75, 23);

this.BTNInput.TabIndex = 1;

this.BTNInput.Text = "Run";

this.BTNInput.UseVisualStyleBackColor = true;

this.BTNInput.Click += new System.EventHandler(this.BTNInput\_Click);

//

// TBWidth

//

this.TBWidth.Location = new System.Drawing.Point(12, 38);

this.TBWidth.Name = "TBWidth";

this.TBWidth.Size = new System.Drawing.Size(100, 20);

this.TBWidth.TabIndex = 2;

//

// TBLength

//

this.TBLength.Location = new System.Drawing.Point(12, 12);

this.TBLength.Name = "TBLength";

this.TBLength.Size = new System.Drawing.Size(100, 20);

this.TBLength.TabIndex = 3;

//

// LBLWidth

//

this.LBLWidth.AutoSize = true;

this.LBLWidth.Location = new System.Drawing.Point(118, 41);

this.LBLWidth.Name = "LBLWidth";

this.LBLWidth.Size = new System.Drawing.Size(35, 13);

this.LBLWidth.TabIndex = 4;

this.LBLWidth.Text = "Width";

//

// LBLLength

//

this.LBLLength.AutoSize = true;

this.LBLLength.Location = new System.Drawing.Point(118, 15);

this.LBLLength.Name = "LBLLength";

this.LBLLength.Size = new System.Drawing.Size(40, 13);

this.LBLLength.TabIndex = 5;

this.LBLLength.Text = "Length";

//

// Form1

//

this.AutoScaleDimensions = new System.Drawing.SizeF(6F, 13F);

this.AutoScaleMode = System.Windows.Forms.AutoScaleMode.Font;

this.ClientSize = new System.Drawing.Size(800, 450);

this.Controls.Add(this.LBLLength);

this.Controls.Add(this.LBLWidth);

this.Controls.Add(this.TBLength);

this.Controls.Add(this.TBWidth);

this.Controls.Add(this.BTNInput);

this.Controls.Add(this.LBLOutput);

this.Name = "Form1";

this.Text = "Form1";

this.ResumeLayout(false);

this.PerformLayout();

}

#endregion

private System.Windows.Forms.Label LBLOutput;

private System.Windows.Forms.Button BTNInput;

private System.Windows.Forms.TextBox TBWidth;

private System.Windows.Forms.TextBox TBLength;

private System.Windows.Forms.Label LBLWidth;

private System.Windows.Forms.Label LBLLength;

}

}

## Code file:

using System;

using System.Collections.Generic;

using System.ComponentModel;

using System.Data;

using System.Drawing;

using System.Text;

using System.Windows.Forms;

namespace Homework2.\_5

{

public partial class Form1 : Form

{

public Form1()

{

InitializeComponent();

}

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

{

int perimiterCost;

perimiterCost = (Int32.Parse(TBLength.Text) + Int32.Parse(TBWidth.Text)) \* 20;

LBLOutput.Text = "£" + perimiterCost.ToString();

}

}

}

## Screenshot of running program:

