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COP2362

# ASSIGNMENT WEEK 1: Calculating Square Roots

I worked alone.

Graphical user interface, application

Description automatically generated

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CODE:

using System;

using System.Collections.Generic;

using System.IO;

using System.Linq;

using System.Runtime.InteropServices.WindowsRuntime;

using Windows.Foundation;

using Windows.Foundation.Collections;

using Windows.UI.Xaml;

using Windows.UI.Xaml.Controls;

using Windows.UI.Xaml.Controls.Primitives;

using Windows.UI.Xaml.Data;

using Windows.UI.Xaml.Input;

using Windows.UI.Xaml.Media;

using Windows.UI.Xaml.Navigation;

// The Blank Page item template is documented at https://go.microsoft.com/fwlink/?LinkId=402352&clcid=0x409

namespace App1

{

public sealed partial class MainPage : Page

{

public MainPage()

{

this.InitializeComponent();

}

//method to perform square root

static double sqrt(double num)

{

//assign input to x in babylonian formula and initialize y as 1

double x = num;

double y = 1;

// e is the accuracy level in this method

double e = 0.00000000001;

while (x - y > e)

{

x = (x + y) / 2;

y = num / x;

}

return x;

}

// actions that take place when button is clicked

private void Button\_Click(object sender, RoutedEventArgs e)

{

//create variable for user input

double input;

// try to parse the user entry as double

try

{

input = double.Parse(userEntryTextBox.Text);

// if user input is less than or equal to 0, return this message

if (input <= 0)

{

resultsLabel.Text = "Results: Please enter a positive number";

}

// if user input is a vaild format, perform the square root function created above, and display results

else

{

double calculatedValue = sqrt(input);

resultsLabel.Text = "Results: The square root of " + input + " is " + calculatedValue;

}

}

// if entry is not a double trigger this result

catch

{

resultsLabel.Text = "Results: Please enter a double";

}

}

}

}