**Module 01 – Jessie’s Computer Shop**

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Microsoft C# Programming

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Module 01 - Lab 2

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The image below is a screen shot of my ‘ComputerShop’ C# console app after valid user input:

A screenshot of a computer program

Description automatically generated

Any numerical value should be accepted, a comma can be included or not.

If any invalid values are entered (cannot be converted to a double data type), then an error message is displayed and the user is prompted again to enter the value:

A screenshot of a computer

Description automatically generated

Below is the code from my Program.cs file:

I used 2 parallel arrays for expense names and the values associated with them. There is a ‘for’ loop that iterates through these arrays asking the user for valid input. If the input is not successfully converted to a ‘double’ the iterator is decremented to ask for a valid number value.

//Program.cs

using System;

class Program

{

//array of values that correlate with expense names

static double[] expenses = new double[4];

//array of expense names for display to the user

static string[] expenseNames = { "merchandise", "employee salary", "store rent", "electricity cost" };

const double minProfitMargin = .2;

static void Main(string[] args)

{

DisplayWelcomeMessage();

GetExpenses();

CalculatePricePoint();

}

static void DisplayWelcomeMessage()

{

Console.WriteLine("Welcome to Jessie's Computer shop's cost analyzer.");

Console.WriteLine("");

Console.WriteLine("You will be asked to enter the annual expenses for the shop");

Console.WriteLine("All costs are factored in to determine the correct product price point.");

Console.WriteLine("");

}

static void GetExpenses()

{

string userInput;

for (int i = 0; i < expenses.Length; i++)

{

Console.WriteLine("");

Console.WriteLine($"Enter the annual {expenseNames[i]} expense:");

userInput = Console.ReadLine();

if (userInput != null && double.TryParse(userInput, out expenses[i]))

{

Console.WriteLine($"{expenseNames[i]} cost of {userInput} accepted");

}

else

{

HandleInvalidEntry();

i--; // To re-prompt for the same expense

}

}

}

static void CalculatePricePoint()

{

double totalExpenses = 0;

foreach (double expense in expenses)

{

totalExpenses += expense;

}

if (totalExpenses > 0)

{

double pricePoint = ((totalExpenses / (1 - minProfitMargin)) / 5200);

string formattedPricePoint = pricePoint.ToString("F2");

Console.WriteLine("");

Console.WriteLine($"The price of a PC to maintain a {(minProfitMargin \* 100):F2}% margin is: ${formattedPricePoint}");

Console.WriteLine("");

}

else

{

Console.WriteLine("No valid expenses entered.");

}

}

static void HandleInvalidEntry()

{

Console.WriteLine("Invalid entry - only numbers are accepted");

}

}