**Multiplication Tables**

by Tennyson Faubert - Tuesday, 11 March 2025, 4:18 PM

Number of replies: 0

Multiplication Tables

A student to use it to help them learn their multiplication tables. Create an application that asks the user to type a single integer and then displays the multiplication table for that number up to 12.

Requirements

Create a C# .NET MAUI Android application that matches the description above and meets the following requirements:

* The user can enter any integer between -50 and 50.
* The application displays an error message if the user enters an invalid number.
* displays the multiplication table for that number up to 12.
* The application displays the multiplication table using tabs and the x character.

Example:

5 x 1 = 5

5 x 2 = 10

Bonus

Instead of using 12 as the upper limit, ask the user what the upper limit should be.

Try using a UI control type you have not used before.

Use additional visual formatting, special characters, colour, space, etc… to improve the look and feel of your application.

**Login Attempts**

Create an application that will ask the user to enter their password. If the user enters the correct password, the application will display “Welcome!” If the user enters the wrong password, the application will display “Incorrect password.” The user will have five chances to enter the correct password. After the fifth incorrect password, the application will display “You have been locked out.”

Requirements

Create a C# .NET MAUI Android application that matches the description above and meets the following requirements:

The application must allow the user to have 5 attempts to guess the correct password.

The password must be stored in a pre-populated variable.

The user must be prompted to enter their guess.

The user must be given the option to try again if they do not guess the correct password.

Bonus

Create a list of pre-defined words and generate a random password and hint based on combinations of those words each time the user starts the application.

**Unit Conversion**

Create an application that can convert miles per hour to kilometers per hour and kilometers per hour to miles per hour.

Requirements

Create a C# .NET MAUI Android application that matches the description above and meets the following requirements:

· Ask the user to select a starting unit of measurement.

· Ask the user to type a number (in the unit selected).

· Ask the user what unit of measurement they would like to convert the number into.

· Convert the number into the target unit of measurement and display the result.

· Your application should be able to convert to and from MPH and KPH using numbers that may or may not decimals.

Bonus

Expand your application’s functionality to include not only units of speed, but also units of distance. Ask the user to select speed or distance at the beginning of the application. Based on their choice, present different options for units of measurement. Include at least four units of speed and at least four units of distance.

Try using a UI control type you have not used before.

**Calculator**

by Tennyson Faubert - Tuesday, 11 March 2025, 4:17 PM

Number of replies: 0

Write a application that asks the user for two numbers and an operation to perform on those two numbers. Then perform the operation and display the result.

If you created a calculator app in one of your previous classes, try and recreate that app with the same UI you created previously.

Requirements

Create a C# .NET MAUI Android application that matches the description above and meets the following requirements:

· Ask the user to type a number.

· Ask the user to type a second number.

· Ask the user to choose from the following list of operators: + - \* x /

· Perform the appropriate mathematical operation and display the result.

· Ask the user if they would like to calculate something else, or if they would like to quit.

· Use an if statement or switch to control the flow of your application’s execution.

Bonus

Ensure that your application can accept and output numbers both with and without decimals, positive and negative numbers, and it does not allow impossible operations (such as dividing by zero). Display user-friendly messages when appropriate.

Try using a UI control type you have not used before.

**Identify Vowels**

Create an application that will ask the user to input a letter of the alphabet. If the letter is a, e, i, o, or u then the application will print "vowel". If the letter is not a vowel, then the application will print "not a vowel".

Requirements

Create a C# .NET MAUI Android application that matches the description above and meets the following requirements:

· The application should be capable of asking the user to input a letter until they indicate that they no longer want to continue.

· The application should print out "vowel" or “not a vowel" for each letter the user inputs.

· The application should be capable of accepting both uppercase and lowercase letters.

· Allow the user to type another letter if they like and check if it is a vowel or not.

· The application should use an if/else statement or a switch statement to identify the vowel.

**Extract the Vowels**

Create an application that will ask the user to input an English word and will provide a point-form list of the vowels included in that word. Additionally, it will return the word with the vowels removed.

Requirements

Create a C# .NET MAUI Android application that matches the description above and meets the following requirements:

· The user can input a word.

· The application will identify all the vowels are included in the word that the user typed.

· The application will then output a list of the vowels included in that word.

· The application will also show the word without the vowels.

· Use an array or a list to store a list of vowels that were found.

· The user can type a different word to see the results for that new word.

Bonus

Beside each vowel, include an integer that indicates how many times that vowel appears in the word.

· For each letter in the list, include a count showing how many instances of that letter the word contains.

**Calculate Change for a Purchase**

You run a small shop here in Canada and customers pay you using paper money and coins. Create an application that will tell you the exact number of each denomination to give your customers when they have a purchase.

Requirements

Create a C# .NET MAUI Android application that matches the description above and meets the following requirements:

· Ask for the price of the item that is being purchased (may or may not include a decimal).

· Ask for money the customer handed you.

· Display a list of each of each denomination of paper money and coins you need to give back to the customer as their change.

· Assume that you have an unlimited number of the following denominations in your cash drawer:

100 Dollar Bill

50 Dollar Bill

20 Dollar Bill

10 Dollar Bill

5 Dollar Bill

2 Dollar Coin

1 Dollar Coin

25 Cent Coin

10 Cent Coin

5 Cent Coin

1 Cent Coin

· Ensure that the customer receives the correct amount of change with the fewest number of dollar bills and coins possible.

Bonus

In Canada we stopped distribution of the penny a few years ago. As a result, merchants need to round to the nearest 5 cents. Incorporate this change into your application.

Try using a UI control type you have not used before.

**Numbers In Between**

Create an application that will display all of the numbers between two given numbers.

Requirements

Create a C# .NET MAUI Android application that matches the description above and meets the following requirements:

· Ask the user to type a number.

· Ask the user to type a second number.

· Ask the user what value they would like to increment by (count by 1, count by 2, etc…).

· Using loops, display all of the numbers in between the two numbers the user typed, counting by the increment value they selected.