**Project Instructions**

Select a project from the list below. You will have the entire semester to complete the project. You should work on it each week as you learn how to write programs in C#. You may use the book and forums for assistance but you may NOT use any outside help for this project.

Add your name to the “Sign Up” section of the project that you choose and create a pull request to merge the changes into the GitHub repository.

For each project you MUST include the following requirements:

1. All code should be thoroughly commented
2. The program should display instructions to the user.
3. The program should allow the user to “ play again” without having to restart the program

**1. Rock Paper Scissors**

Make a rock, paper, scissors game

Requirements:

• Ask the player if they pick rock paper or scissors

• Have the computer chose its move

• Compare the choices and decide who wins

• Print the results

• Let the player play again

Bonus:

Keep a record of the score e.g. (Player: 3 / Computer: 6)

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**2. Create a dice simulator**

You are about to play a board game, but you realize you don't have any dice. Fortunately you have this program.

Requirements:

* Create a program that opens a new window and allows the user to select the number of dice to be drawn on screen(1-4)
* Allow the user to “roll” the dice
* Display the results
* Allow the user to quit, or roll again

Bonus:

Add up the total of the dice and display it

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**3. Magic 8 Ball**

I'm sure you've used a magic 8 ball at one point in your life. You ask it a question, turn it right side up and it gives an answer by way of a floating die with responses written on it.

Requirements:

* Allow the user to enter their question
* Display an in progress message( i.e. "thinking")
* Create 20 responses, and show a random response
* Allow the user to ask another question or quit

Bonus:

Remember the user’s questions and answers and allow them show the list on the screen.

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**4. Hangman Game**

Create a program that selects a random word and then allows the user to guess it in a game of hangman.

Requirements:

* The program should print the number of letters in the word
* a part of the body should be added each time the user guesses a letter than is not in the answer (you may choose how many wrong turns the user can make until the game ends).
* If the user loses, print out the word at the end of the game.
* Create a "give up" option.

Bonus:

Instead of printing out the number of letters for the word, create a blank spot for each letter which is replaced with the correct letter if they guess correctly.

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**5. Mad Libs Story Maker**

Create a Mad Libs style game, where the program asks the user for certain types of words, and then prints out a story with the words that the user inputted. The story doesn't have to be too long, but it should have some sort of story line.

Tip - It's easiest to write out a quick story on a piece of paper or a word document, and then go back through and see which words the user should be able to change.

Requirements

* The program should prompt the user for types of words
* The program should Display the story using the input from the user

Bonus

Allow the user to Print the story.

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**6. Menu Calculator**

Imagine you have started up a small restaurant and are trying to make it easier to take and calculate orders. Since your restaurant only sells 9 different items, you assign each one to a number, as shown below.

a. Chicken Strips - $3.50

b. French Fries - $2.50

c. Hamburger - $4.00

d. Hotdog - $3.50

e. Large Drink - $1.75

f. Medium Drink - $1.50

g. Milk Shake - $2.25

h. Salad - $3.75

i. Small Drink - $1.25

Requirements:

* the program should allow the user to select menu items from the list
* the program should allow the user to enter the quantity of each item they select.
* the program should calculate the cost of the order.

Bonus:

Add the ability to for the user to change the price of the items.

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**7. Change Calculator**

Imagine that your friend is a cashier, but has a hard time counting back change to customers, create a program to calculate the number of quarters, dimes, nickels and pennies based on the amount of change.

Requirements:

* the program should allow the user to input a certain amount of change
* the program should print how many quarters, dimes, nickels, and pennies are needed to make up the amount needed.

For example, if he inputs 1.47, the program will tell that he needs 5 quarters, 2 dimes, 0 nickels, and 2 pennies.

Bonus:

So your friend doesn't have to calculate how much change is needed, allow him to type in the amount of money given to him and the price of the item. The program should then tell him the amount of each coin he needs like usual.

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**8. Higher-Lower Guessing Game**

Create a simple game where the computer randomly selects a number between 1 and 100 and the user has to guess what the number is. After every guess, the computer should tell the user if the guess is higher or lower than the answer. When the user guesses the correct number, print out a congratulatory message.

Requirements:

* the program should prompt the user to guess a number
* the program should tell the user if the guess is higher or lower than the answer.
* the program should display a congratulatory message when the user guesses the correct number.

Bonus:

In addition to the congratulatory message at the end of the game, also print out how many guesses were taken before the user arrived at the correct answer.

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