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Assignment 1

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The Average Program

**Goal:** Create a program with two txt boxes input which, as they are put in, will show on a label. One button that can take any set of random numbers and find the average of those numbers. My algorithm will be able to find the average of all input numbers.

**Input:**

1. Chosen at random, the user will flip cards with a number on it.
2. The user will than put each number into the txt box which will display on a label.
3. When the user has finished inputting the numbers they may push the average button.

**Process:** Once pushed the average will button will:

1. Add up the total of all the numbers.
2. Add up how many numbers were input.
3. Divide the sum of all the numbers by the sum of how many numbers there are.

**Output:** Once the average has been calculated the average of all the numbers will display within the label.

**Testing:** I will:

1. Pick a set of numbers.
2. Input them in the txt box.
3. Push the button.
4. Keep the results displayed.
5. Manually do the math.
6. Repeat the test three times.
7. If my findings match the programs findings than it should be working correctly.

Is it Prime or Not

**Goal:** My program, which will include one input txt box, one label, and one button; will identify whether or not a number is prime.

**Input:**

1. The user will choose a number at random up to 9,999.
2. The user will than type in the input box.
3. The user will than push the prime checker button.

**Process:** Once pushed my button will:

1. Divide the chosen number by 1-9 and the chosen number that was input.
2. Determine whether it is divisible by more than 1 or itself.
3. If divisible by only 1 or itself display “the number ???? is prime” in the label.
4. If divisible by 3 or more values display “???? not prime”.
5. Display the results.

**Output:** Once it is determined, the txt “the number ???? is prime” or “????? Is not prime” will display on a label as a txt.

**Testing:** I will:

1. Pick a number at random.
2. Input that number into my program and have it calculate its answer.
3. I will than manually calculate my answer.
4. I will repeat these steps three times.
5. If my answers match my programs, than the program should be working correctly.

Making Numbers bigger With Binary

**Goal:** Create a program which includes; one input txt box, one button, and one label. Which will show a numbers equivalent binary code. My algorithm will be able to convert a number to show the user its equivalent binary code.

**Input:**

1. Chosen at random, the user will pick a number between 1 and 9,999.
2. They will than put that number in the txt box.
3. They will than push the convert button.

**Process:** Once pushed my button will:

1. Recognize which number was put into the txt box.
2. Go through the sequence of determining the correct binary code.
3. Calculate the coinciding binary code for that number by:
4. Calculating which numbers are used to create the selected number
5. Recognizing the series of ones and zeros.
6. Putting them in the appropriate order and:
7. Display the correct binary code for the input number.

**Output:** Display the binary code in the label.

**Testing:**  I will:

1. Pick a number at random.
2. Input that number into my program.
3. Have my program calculate the binary code for that number.
4. I will than manually determine the binary code.
5. If my results match that of my program, than it should be working correctly.