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Assignment 3.a - Project Plan

Understanding:

Assignment 3.a is asking me to design a program that asks a user to enter how many numbers (integers) they would like to enter. The program then allows to the user to enter desired of integers ranging from positive to negative numbers. Once all integers are entered the program prints out the minimum and maximum of all numbers entered.

There are many new techniques that we learned this week that will need to be implemented into program 3.a.   I will have to set-up a do while loop in my program to run for times the user enters. I will have to set up an integer to be a counter for my do while loop. I will also have to write an if statement to calculate the maximum and minimum numbers to print out to the user.

Testing Plan:

Description	Result
If I enter 1 for number of integers I want to enter what will happen to my min and max values?	The min and max results will be the same integer
If enter all positive numbers for my integers will the min be 0 or lowers positive number?	I will need to write a code outside the loop to assign min and max to first integer entered instead of assigning these numbers as 0 in the beginning of the program
If the user enters a double number with decimal places what happens?	Program will end
If user enters 0 for number of integers they want to enter what happens?	Program will end
User enters 4 for the number of integers they want to enter	Program will start loop and allow user to enter 4 integers that are positive or negative
After user enters 4 numbers the next step is min and max output	The min and max code is written within the loop to check for numbers less than or greater than newly entered numbered and is stored for output

Design:

```
                    ┌───────────┐
                    │   Start   │
                    └───────────┘
                          │
                          ▼
              ┌───────────────────────┐
              │      Set counter      │
              └───────────────────────┘
                          │
                          ▼
          ┌───────────────────────────────┐
          │ Get desired integers user wants│
          │    to enter greater than 1     │
          └───────────────────────────────┘
                          │
                          ▼
                     ◇◇◇◇◇◇◇◇◇                              No
               ◇◇  Is integer counter  ◇◇  ──────────────────────►  ┌──────────────────┐
               ◇◇    < integers user   ◇◇                           │  Set min and max │
               ◇◇    wants to enter?   ◇◇                           └──────────────────┘
                     ◇◇◇◇◇◇◇◇◇                                              │
                          │                                                 ▼
                          ▼                                      ╱──────────────────╱
              ╱──────────────────────╱                         ╱   Print the min   ╱
             ╱   Input next integer  ╱                        ╱     and max        ╱
            ╱──────────────────────╱                         ╱──────────────────╱
                          │                                            │
                          ▼                                            ▼
          ┌───────────────────────────────┐                    ┌───────────┐
          │    Is integer < or > previous │                    │    End    │
          │  integer, update min and max  │                    └───────────┘
          └───────────────────────────────┘
                          │
                          ▼
              ┌───────────────────────┐
              │    Add 1 to counter   │
              └───────────────────────┘
```