

Thomas McIntosh

mcintost@oregonstate.edu

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Assignment 3 design

Luay Alshawli - [alshawil@oregonstate.edu](mailto:alshawil@oregonstate.edu)

## **Understanding:**

The assignment wants a program that can be set to accept a varying amount of integers by the user. Then allows the user to give that many integers and the program will then tell the user what the min and max value of the given integers are, assuming the given number of integers is  $\geq 1$ . A for loop will be used in the program so that the program will allow the user to input the exact number of integers equal to the number as defined by the user. The for loop will allow the program to run the amount of times as given by the user. The program will also utilize if statements to determine the min and max value, the first value will be defined as the min and max and all numbers will be compared to it. If the number is smaller it replace the original value and become the min, if a number is larger than it the new number will become the max. Then all future numbers will be compared to the current min and max.

## **Testing Plan:**

<b><u>Test</u></b>	<b><u>Expected test results</u></b>
(Press the enter key between the integers instead of the space key.) Input 3 integers input as 5 [ENTER], 3 [ENTER], 20 [ENTER].	Should give the desired format and not prematurely end the program. As well as show min 3 max 20.
(Give only one integer) Input 1 integer and input 72.	The min should be 72 and max should be 72.
(Give the same integer multiple times) Input 5 integers and input 4, 4, 4, 4, 4.	Should show min as 4 and max as 4.
(Give the positive and negative value of the same integer) Input 2 integers and input -15, 15	Should show min as -15 and max as 15.
(Give only positive integers) Input 3 integers and input 3, 20, 100.	Should show the min as 3 and max as 100.
(Give only negative integers) Input 3 integers and input -34, -50, -3	Should show the min as -50 and max as -3
(Give both positive and negative integers) Input 3 integers and input 56, -12, 25	Should show the min as -12 and max as 56

(Give both positive and negative integers and a larger amount of variables) Input 10 integers -46, 23, 58, 123, 234, 94, 93, -123, -5, -74.	Should show the min as -123, and max as 234
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## **Design Plan:**

Get number of integers from the user. (Assuming  $\geq 1$ ) Defined as intAmount

Set total to 0

Set integer counter to 1

For integer counter  $\leq$  intAmount

    Input the next integer.

        Set the first value as the min

        Set the first value as max.

    Add 1 to the integer counter

    Input the next integer.

    Compare the value of the integer to the min.

        If it is smaller replace the min.

    Compare the value of the integer to the max.

        If it is larger replace the max.

    Add 1 to the integer counter

Print the final min and max.