

Student Name: Christopher Felix

Project: Occurrence of Max Value

Problem Description:

Write a program that reads integers, finds the largest of them, and counts its occurrences.

Assume that the input ends with number 0. Suppose that you entered 3 5 2 5 5 5 0; the program finds that the largest is 5 and the occurrence count for 5 is 4. (Hint: Maintain two variables, max and count. max stores the current max number, and count stores its occurrences. Initially, assign the first number to max and 1 to count. Compare each subsequent number with max. If the number is greater than max, assign it to max and reset count to 1. If the number is equal to max, increment count by 1.)

Here are sample runs of the program:

Sample 1:

Enter numbers: 3 5 2 5 5 5 0

The largest number is 5

The occurrence count of the largest number is 4

Sample 2:

Enter numbers: 3 6 5 4 2 4 5 4 5 5 0

The largest number is 6

The occurrence count of the largest number is 1

Analysis: (Describe the problem including input and output in your own words.)

The problem was to create a program that reads a series of integers from the user and finds the largest number in the sequence and how many times that number appears.

Input: A series of integers

Output: The largest number and its occurrence count

Design: (Describe the major steps for solving the problem.)

Initialize variables: Start by initializing the key variables: “max” to store the largest number and “count” to store the occurrence the largest number has been found.

Read user input: Utilize a loop to read numbers from the user. The loop should terminate once 0 is inputted.

Compare values: For all numbers inputted: (1) if the number is greater than the current max, update max and reset count to 1 and (2) if the number equals max, increment the count

Display results: After exiting the loop, display the max and the count

Testing: (Describe how you test this program)

Sample/ provided test cases: Use the provided sample test cases in the problem statement/ description

Edge cases: Enter only 0 to check for edge cases where no numbers are inputted

Custom test cases: Use a variety of custom inputs to ensure functionality

Coding: (Copy and Paste Source Code here. Format your code using Courier 10pts)

Name your program Exercise05_41

Submit the following items:

1. Print this Word file and Submit to me before the class on the due day
2. Compile, Run, and Submit