CS 1121 Week 2 Lab Name:_____
Written Portion

Use this document to record the written portion of the assignment.

Be sure that all team members submit this document upon completion of the lab.

2.1 Blindfolded Artist (150 pts)

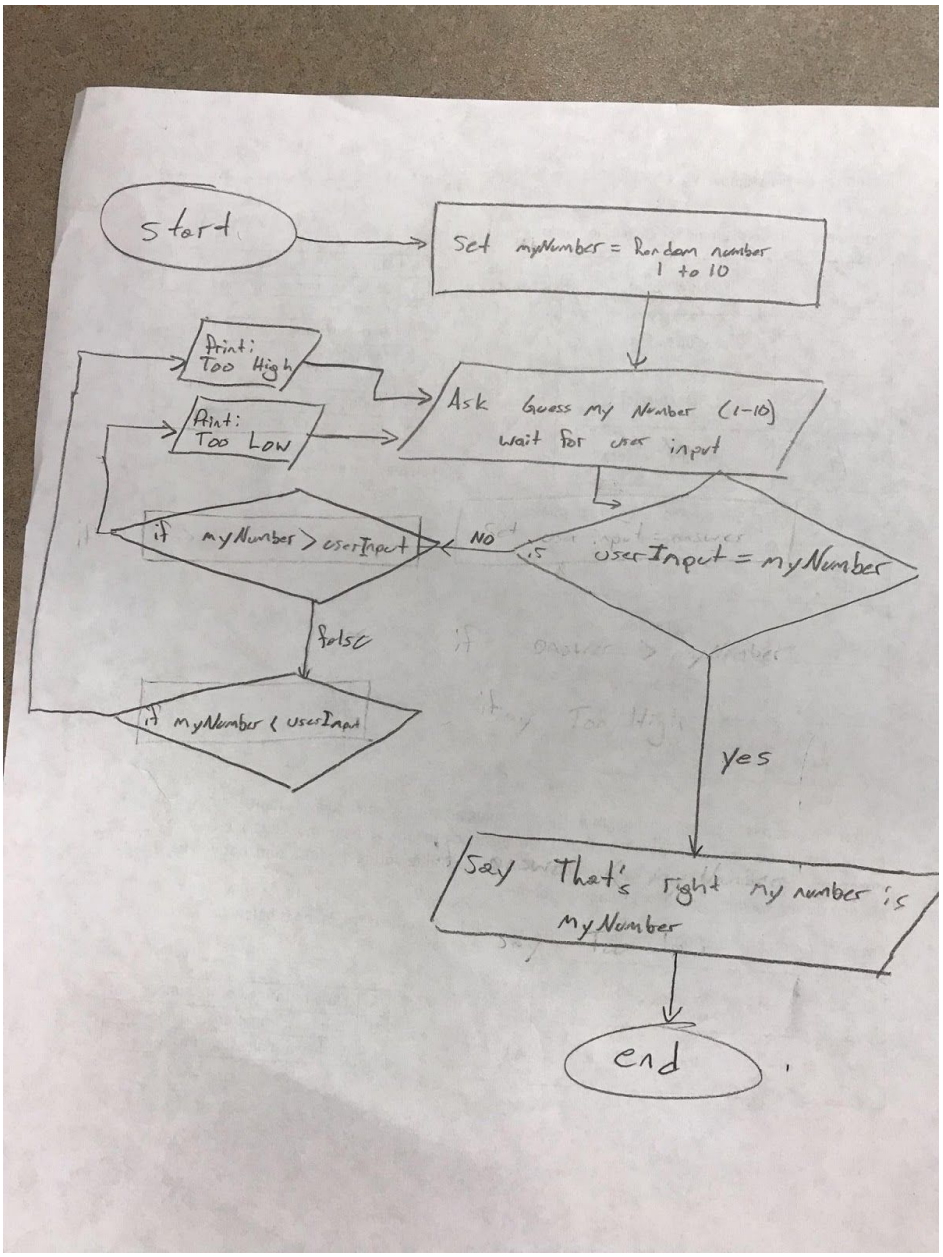
To play this game you will work in groups of two pairs. Introduce yourselves and make sure you all know each other's names. Each pair will get a chance to draw and a chance to give instructions. Choose which pair draws first. The pair who is drawing must move to the whiteboard and blindfold themselves. The instructor will give the other pair three secret cards. Do not reveal what is on the cards. The pair who has the cards, must choose one card and try to get the other pair to draw what is on the card without saying what it is.

How did this activity relate to giving instructions to a computer? Write your responses here:

The computer doesn't understand the intentions of the user like the drawer didn't know what they were drawing. The drawer could only follow clear, precise instructions form the instructor like the computer following instructions in a program written by the user.

4.2 Problem 2: Guess My Number (75pts)

Place an image of your flowchart here, or specify the submitted file your flowchart is in.



4.3 Problem 3: Solving a word problem (200 pts)

Consider the following plain-English program specification.

```
Ask the user for a series of positive numbers and count how many
values are input.  After a non-positive number is entered, your
program should report the number of positive numbers that were
entered.
```

Analyze the specification. Per the *Word Problems Handout*, mark up the problem statement.

From the problem statement, answer the following,

1. What information do I need the user to provide?

   The numbers the user inputs

2. What information do I need the program to generate?

   How many positive numbers where input

3. How do I manipulate, evaluate, or modify the pieces of information? What am I doing with them?

   You are checking for positive numbers and counting them. Checking for non-positive numbers to end the program.

4. What is the final result this program should generate?

   The count of positive numbers

5. How do I arrive at that final result? What actions do I need to do to generate it?

   You need to input a non-positive number

6. In what way do I use the final result? What is the program expected to do with this information?

   The program outputs the number of positive numbers.

4.3.1 Pseudocode

Rewrite the above problem statement as a series of pseudocode instructions.

Your instructions should be executable, unambiguous, and terminable. Make sure you are precise!

Write your pseudocode here:

1) set count to 0

2) Ask the user for a number.

3) Check to see if the number is positive or not.

4) If the number is positive repeat steps starting from step 2 and add 1 to the count

5)If false display the current count

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4.3.2 Critical Thinking Questions

Answer the following questions:

1. Give one example of an assumption you need to make based on this problem's description. That is: what is a detail that is not present in the text, that you as the programmer need to assume an approach for in order to design the algorithm? (Hint: there is a certain word that is unclear for a specific input)

   Is zero considered positive or non-positive

2. "Control flow" describes how the program's instructions are moved through. Is this flow: purely sequential, branching based on a decision (if), or repeating (loop)? (Tip: more than one might apply!)

   The flow chart can repeat and split because of decisions. Without those the program is sequential.

3. Decisions in programming rely on conditions and deciding if that condition is TRUE or FALSE. There is a specific condition that must be reached for this program to stop. What is it?

   The false condition must be reached to make this program end

4. What Snap blocks would we need to use to represent this condition? Note: you don't need the "control flow" block related to the condition - just how to represent the TRUE/FALSE condition with Snap blocks.

   The if block is needed

5. How would we "count" the number of positives? What allows us to "keep track of and modify values"?

A variable that is added to every time the program is true

Name:_____