

75 pts

Name: \_\_\_\_\_

Class Day / Time: \_\_\_\_\_

Due Date: \_\_\_\_\_

## Assignment #4

# Programming Basics: Selection & Repetition

For the following problems diagram a FOR loop or a WHILE loop depending on which is MOST appropriate. Use Excel as a diagramming tool (it is okay to use another computer based tool as long as you can properly format your flowchart). Use a font that does not print smaller than a standard 10pt font.

1. Draw a flowchart for a program that will obtain 10 exam scores from the user and determine whether the score is passing (a score of 60 or above) or failing. Your algorithm should count the number of passing and failing scores. Output the average of all of the scores, the number of failing scores, and the number of passing scores. List the input, output, and all other variables necessary for this program. Perform a desk check with the following values: **75, 25, 51, 49, 88, 12, 22, 23, 52, and 78.** **FORMAT desk checks as covered in class including variables and output.**

2. Write the pseudocode for Aunt Ellen's Egg Ranch. The user will enter the number of eggs gathered and the program will output the number of dozens as well as the number of excess eggs. Continue this process until a negative number is entered. Next, write a flowchart for this program. For the calculations include the actual formulas.

**NOTE: Include the formulas with the keyword CALCULATE ← put all keywords in uppercase**

**Example Input/Output:** (user input is green → user output is blue)

Enter the number of eggs gathered: 43  
You have 3 dozen and 7 eggs.

Enter the number of eggs gathered: 32  
You have 2 dozen and 8 eggs.

List the inputs, outputs & all necessary variables for this program.  
Perform a desk check with the following input values: **24, 8, 15, and -999.**

**TURN IN (in the FOLLOWING ORDER) – stapled with your name above.**

- 1 – Turn in the **first page** of this assignment as a coversheet.
- 2 – Problem #1 → Flowchart followed by the desk check
- 3 – Problem #2 → Pseudo-code followed by the desk check  
→ Flowchart followed by the desk check

**Be sure to start each problem on a new page,** and staple your work.