**CSC 205 – Program Assignment Submission Sheet**

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

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

**1. Problem Statement**

Write the following code segment in MARIE’s assembly language.

If X <= Y then

Y = Y + 1;

Else if X != Z

Then Y = Y – 1;

Else Z = Z + 1;

**2. Input/Output Description**

Variables (X,Y,Z) => Computer => Change/Output of Y (if X <= Y or X != Z), else Change/Output of Z

**3. Hand-Worked Examples** (at least two; also to be used as tests, below, in Step 6)

**4. Algorithm Development (Decomposition Outline)**

1. Check given variables before start.
2. Test for X => Y
3. Subtract X-Y
4. Check using SKIPCOND 800
5. If SKIPCOND 800 skips the next line (CASE 1 is false), go to “THEN2” to test for X != Z

(Case 2/Case3)

1. Else, jump to **CASE 1** (Y = Y + 1), print output
2. Test for X != Z
3. Subtract X-Z
4. Check using SKIPCOND 400
5. If the AC = 0, then (X =Z) go to **CASE 3** (Y = Y – 1), print output
6. Else, jump to **CASE 2** (Z = Z + 1), print output

**5. Program Source Code**  *Attach* sheet(s) of your source code printed from the IDE. (Do not *include* code here!)

**6. Test(s)** Include here or attach sheet(s) of “cut-and-pasted” results from the console window and printed from MS Word using a fixed-width font. Also, remove excessive vertical whitespace to save paper.