CSC332 Fall 2021 HW1 (Sec 2.4 The CPU)

**Due: Tues, Sept 28, 11 PM.**

**Please write your solutions in a Notepad or Word file**, and upload  **it as an attachment on Blackboard (BB).**

**Do not** directly type your answers in BB system.

**Do not send it to my email.**

**Do only one question, based on your Section (K or M) and the first letter of your last name:**

**Section K, First letter of last name A-M: Q1**

**Section K, First letter of last name N-Z: Q2**

**Section M, First letter of last name A-M: Q3**

**Section M, First letter of last name N-Z: Q4**

In Q1-Q3, Convert the given code fragment to assembly code fragment, **using only instructions of the following types (these are generally discussed in class). Here**

X is a memory location, R is a register.

Load X, R

Store R, X

CMP R1, R2 //does R1-R2 first

JMP

JMPP

Add X, Y //stores result in Y

**Do Not use any other instructions (in this, or some other, assembly language. Ex. do not use JMPZ, JMPN etc.**

Q1.

if X > Y then Y=X

else X=Y

Q2.

if (X == Y) X = X + Y;

L:

Q3.

if (X <Y) X = X + Y;

else Y = Y + X;

L:

Q4.

The PC is incremented at the end of Fetch Cycle. Suppose, instead, we do it at the end of the Execute Cycle. Will there be any problem? (Hint: look at the instructions discussed in class).