Marcus Domingo

HW5A

CSC205 section 1 Spring 2015

Homework 5

How to Submit:

Please submit your solutions (parts A and B separately) through Blackboard. Remember to put your name and homework number on all the documents that you submit as attachments.

Total possible points in this homework: 2 for Part B

(You receive 1 bonus point towards Part A if you get all Part A questions correct.)

Part A

1. MARIE is a minimalist accumulator architecture that is fully functional. Therefore, it is important to be familiar with it. Name all the registers in MARIE and describe the purpose of each of them.
2. Accumulator (AC) is a 16-bit register that holds a conditional operator or one operand of a two-operand instruction.
3. Memory address register (MAR) is a 12-bit register that holds the address stored in memory of an instruction or the operand of an instruction.
4. Memory buffer register (MBR) is a 16-bit register that holds the data after its “fetch” from, or before its stored in memory.
5. Program counter (PC) is a 12-bit register that holds the address of the next program instruction to be executed.
6. Instruction register (IR) is a 16-bit register which holds an instruction immediately before its execution.
7. Input register (InREG) is an 8-bit register that holds data read from an input device. (Keyboard, Mouse, etc.)
8. Output register (OutREG) is an 8-bit register that holds data that is ready for the output device. (Computer Monitor, etc.)