

Assignment 5
(Due date: Thursday, 3/12/2009, in class)

Your name:	Grade:
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1. The steps that the LMC performs are closely related to the way in which the CPU actually executes instructions. Draw a flow chart (like the ones shown in the class) that describes the steps that the LMC follows to execute a branch (branch-always) instruction

2. Draw a flow chart that describes the steps that the LMC follows to execute a subtract instruction.

4. Using the LMC simulator (accesses via the course website), compile and test the following LMC program.

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| <pre>000: INP STA N1 INP ADD N1 OUT HLT N1 DAT 0</pre> | <ol style="list-style-type: none"> 1) Describe in English the function of the above code segment (what does it do)? 2) After successfully testing the code, record the inputs you provided for the testing, and write down the values of the Program Counter and Accumulator. |
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5. Using the LMC simulator (accesses via the course website), compile and test the following LMC program.

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| <pre>000: INP STA N1 INP STA N2 SUB N1 BRP LOOP LDA N1 OUT HLT LOOP LDA N2 OUT HLT N1 DAT 0 N2 DAT 0</pre> | <ol style="list-style-type: none"> 1) Describe in English the function of the above code segment (what does it do)? 2) Record the values of the Program Counter and Accumulator for each of the following 2 sets of inputs: <ol style="list-style-type: none"> a. 3, 9. b. 9, 3. |
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