**EE334** Computer Architecture **Name:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# Homework assignment 4 Due: February 22, 2012

We need to add the instruction **addi** which is described in Section 2.5 of the textbook to the single-cycle datapath shown below.

a) Determine the format type for this instruction (i.e. R, I, or J)

b) Show how **addi $15, $3, 32** instruction is represented (show the fields and their binary values).

31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0

 c) Add any necessary datapaths and control signals to the datapath and show the necessary additions to the table of control lines.

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