

# CMPUT 229 - Quiz #5 — Winter 2014

Name: Solution

Consider the instruction `beq $t0, $t1, foo` (0001 0001 0000 1001 0000 0000 0000 0111 in binary), and the datapath diagram below. Assume this instruction is stored in memory at address `0x4000 0000`.

**Question 1 (2 points):** Highlight the datapath for executing the instruction on the diagram.

**Question 2 (2 points):** What is the output of the Sign-extend unit? 0x0000 0007

OR 0000 0000 0000 0000 0000 0000 0000 0111

**Question 3 (2 points):** What are the *sources* of the input values to the main ALU?

\$t0 and \$t1 (\$8 and \$9)

**Question 4 (2 points):** What are the input *values* to the Add ALU?

0x4000 0004 and 0x0000 001C

**Question 5 (2 points):** Which type of instruction is not implemented in the datapath?

Jump instructions

