

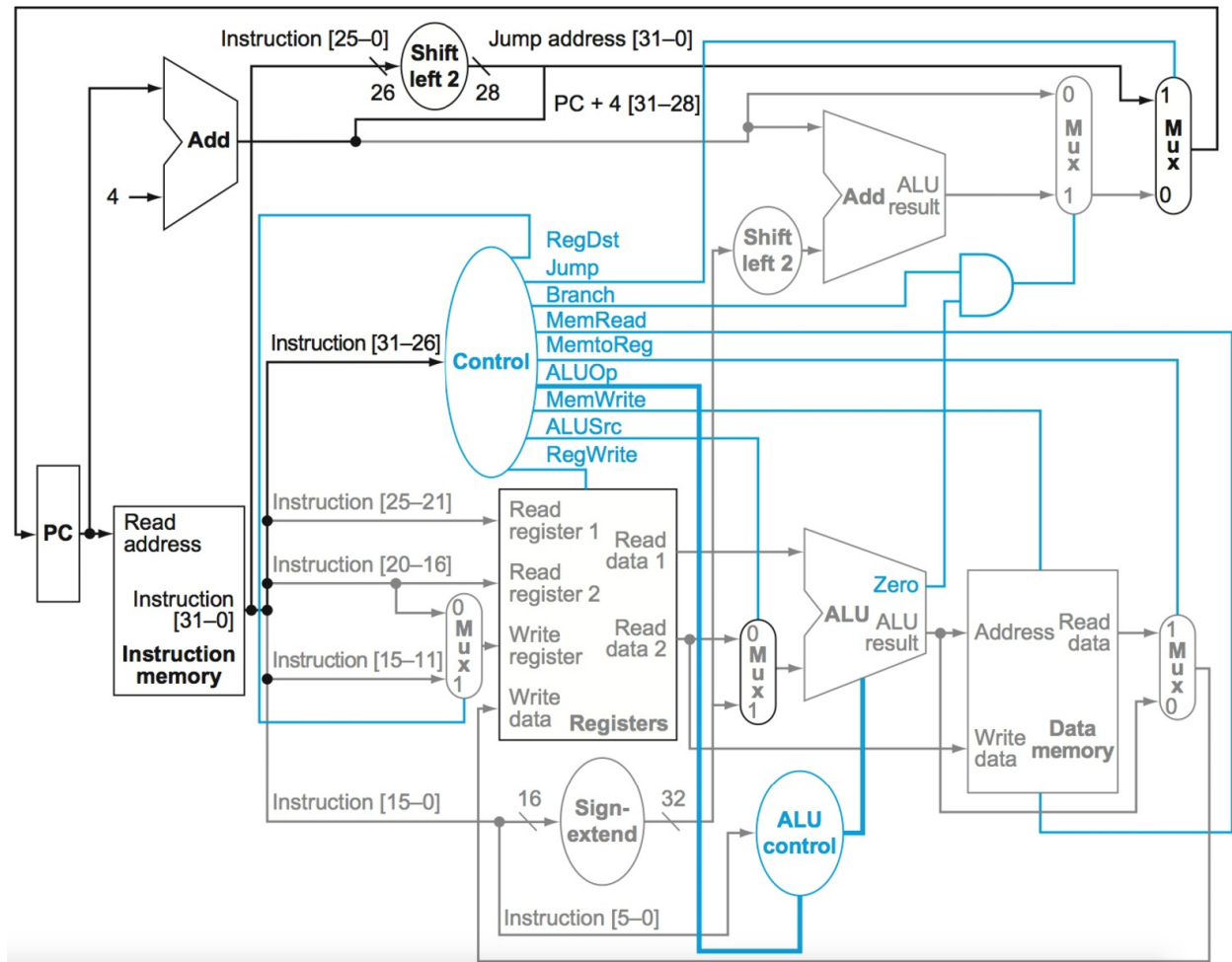
# Homework 5

ECE2500 CRN:82943

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# Single Cycle Data path



Implements add, sub, beq, lw, sw, j instructions

**Problem 1:**

**Problem 2:**

**Problem 3:** Suppose your code contains a beq instruction in a loop which results in the following branch outcomes: T, NT, T, T, T, NT, T, NT, T, T, where T means taken and NT means not taken. (a) What is the accuracy of a static branch predictor that always predicts that the branch is taken? (b) What will be the accuracy of a 1-bit branch predictor, assuming it starts with a T prediction? (c) What will be the accuracy of a two-bit predictor assuming that the predictor starts off in the strongly taken state?