

Introduction to Computer Engineering (E85)

Harris

Fall 2010

Problem Set 8

Due: Wednesday, November 10

BIZARRO By Dan Piraro



1) Textbook Problems

Do problems 6.4, 6.18 (for part c, only do i-ii), 6.28(b) (refer to PS7 for part (a)), 7.2, 7.3(b,e), 7.6

Part (b) of 6.18 should read `0x00400044` rather than `“0x00400040.”`

For 7.2, consider the R-type instructions (add, sub, and, or, slt), lw, sw, beq, j, addi.

For 7.3(b): in `lui`, the machine code always specifies `$0` for the `rs` (unused) source register.

Two copies of Figure 7.11 and Table 7.8 are attached for convenience on Exercise 7.3.

2) Time

Please indicate how many hours you spent on this problem set. This will not affect your grade, but will be helpful for calibrating the workload for next semester's class.

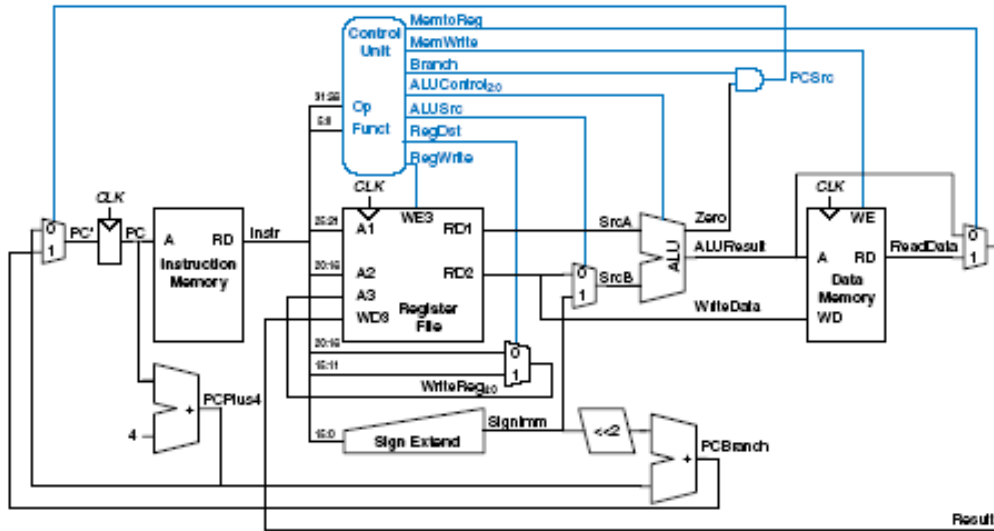


Figure 7.11 Complete single-cycle MIPS processor

Table 7.8 Main decoder truth table to mark up with changes

Instruction	Opcode	RegWrite	RegDst	ALUSrc	Branch	MemWrite	MemtoReg	ALUOp
R-type	000000	1	1	0	0	0	0	10
lw	100011	1	0	1	0	0	1	00
sw	101011	0	X	1	0	1	X	00
beq	000100	0	X	0	1	0	X	01

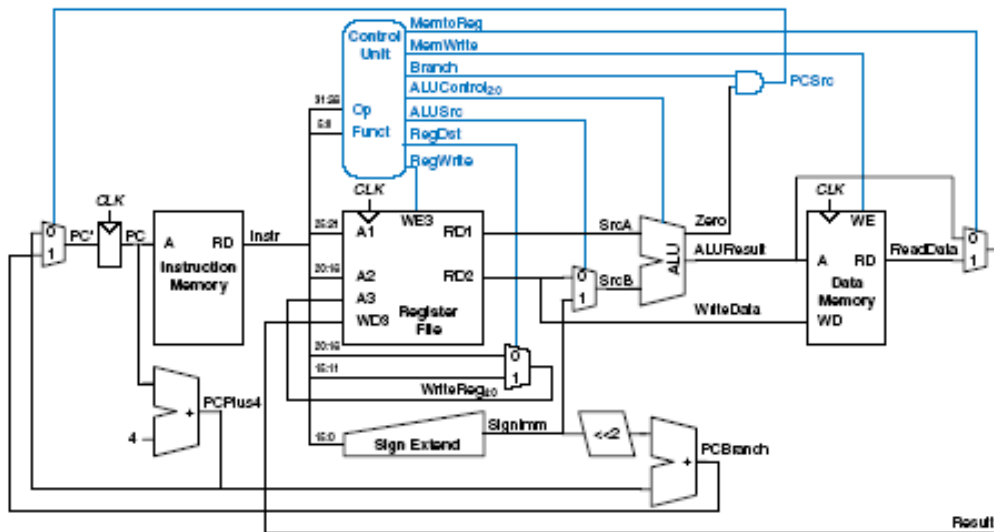


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