Lui Instruction IN MIPS

- ## Description: Lui instruction, Load Upper Immediate(imm), is an I-Type instruction. It's immediate value is shifted left 16 bits and stored in the register rt . The lower 16 bits are zeroes.

| 001111 (15) | lui rt, imm | load upper immediate | [rt] = (imm, 16'b0) |

Example:

lui $t0 , 64

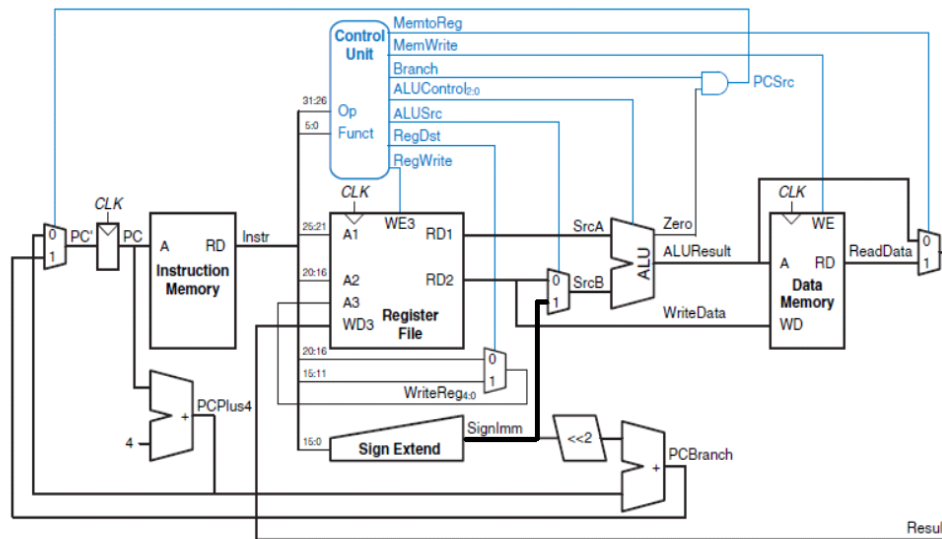| 1000000000000000	0000000000000000
Upper 16 bits	Lower 16 bits

- Datapath:

Figure 7.11 Complete single-cycle MIPS processor

Basically nothing changes in the datapath for the Lui instruction, the ALU performs shifting operation as it shifts the immediate by 16 bits, while the other lower 16 bits are zeroes. The ALU Result is sent back to the register file in rt

- *AluResult = SrcB << 16*

Control Unit :

RegWrite	RegDst	AluSrc	Branch	MemToReg	AluControl	MemWrite	Jump
1	0	1	0	0	1000	0	0

ALUControl is changed from 3-bits to 4-bits.