Datapath for SSUB **PCSrc** MemtoReg Jump MemWrite Branch n_zero WriteData1:0 ALUControl4:0 Control Unit Word/Byte ALUSrc SSUB Ор RegDst1:0 Zero Funct Bit_Byte Add/Sub RegWrite Χ 0 SUB CLK 0 0 CLK 01 CLK 0 00 WE3 SrcA WE Α1 RD1 0 Resulf RD Register File A2 RD2 SrcB Instruction Data Memory Memory А3 00 WD3 WD WriteData 10 11 Rotate Left 32BIT 25:21 \$31-Rotate Left WriteReq4:0 Byte 4 times PCPlus4 Sign Extend <<2 SignImm **PCBranch** 31:28 Zero Extend 27:0 <<16 <<2 Note: Registers \$LO and \$HI are in ALU