Datapath for SADD **PCSrc** MemtoReg Jump MemWrite Branch n_zero WriteData1:0 ALUControl4:0 Word/Byte Control Unit ALUSrc Ор RegDst1:0 Zero 5:0 Funct Bit_Byte RegWrite Χ 0 0 ADD CLK 0 CLK CLK 01 0 00 WE3 SrcA WE 0 Α1 RD1 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