

Step	R-type	lw/sw	beq/bne	j
Inst Fetch		$\text{IR} = \text{Mem}[\text{PC}]$ $\text{PC} = \text{PC} + 4$		
Inst Decode Register Fetch		$A = \text{Reg}[\text{IR}[25-21]]$ $B = \text{Reg}[\text{IR}[20-16]]$ $\text{ALUOut} = \text{PC} + (\text{SE}(\text{IR}[15-0]) \ll 2)$		
Execution Address comp beq/j done	$\text{ALUOut} = A \text{ op } B$	$\text{ALUOut} = A +$ $\text{SE}(\text{IR}[15-0])$	if (A==B) then $\text{PC} = \text{ALUOut}$	$\text{PC} = \text{PC}[31-28]$ $\parallel (\text{IR}[25-0] \ll 2)$
Mem access R-type done	$\text{Reg}[\text{IR}[15-11]] =$ $\text{ALUOut}$	$\text{lw: MDR} = \text{Mem}[\text{ALUOut}]$ $\text{sw: Mem}[\text{ALUOut}] = B$		
lw done		$\text{lw: Reg}[\text{IR}[20-16]] = \text{MDR}$		