

Stage Computation: popl

	popl rA	
Fetch	$\text{icode:ifun} \leftarrow M_1[\text{PC}]$ $\text{rA:rB} \leftarrow M_1[\text{PC}+1]$ $\text{valP} \leftarrow \text{PC}+2$	Read instruction byte Read register byte Compute next PC
Decode	$\text{valA} \leftarrow R[\%esp]$ $\text{valB} \leftarrow R[\%esp]$	Read stack pointer Read stack pointer
Execute	$\text{valE} \leftarrow \text{valB} + 4$	Increment stack pointer
Memory	$\text{valM} \leftarrow M_4[\text{valA}]$	Read from stack
Write back	$R[\%esp] \leftarrow \text{valE}$ $R[\text{rA}] \leftarrow \text{valM}$	Update stack pointer Write back result
PC update	$\text{PC} \leftarrow \text{valP}$	Update PC

- Use ALU to increment stack pointer
- Must update two registers
 - Popped value
 - New stack pointer