

## RTL Micro Operations

Instruction	Sequence of Operations
ADD R1, R2, R3	$R1 \leq R2 + R3$
ADDI R3, #25	$R3 \leq R3 + 25$
LD R2, 10(R6)	$R2 \leq \text{Mem}[R6+10]$
ST R2, -2(R1)	$\text{Mem}[R1-2] \leq R2$
BMI R5, #-10	$PC \leq PC - 10$ if $(R5 < 0)$
MOVE R1, R5	$R1 = R5$
CALL #1000	$SP \leq SP - 4$ $\text{Mem}[SP] \leq PC + 4$ $PC \leq PC + 1000$
RET	$PC = \text{Mem}[PC]$ $SP \leq SP + 4$

	regDst	branch	memRead	memToReg	aluOp	memWrite	aluSrc	addrOp	writeDataOp	pcOp	aOp2	spOp	regWrite
ADD	1	0	0	0	0000	0	0	0	0	0	1	xxxx	1
ADDI	0	0	0	0	0000	0	1	0	0	0	1	xxxx	1
LD	0	0	1	1	0000	0	1	0	0	0	1	xxxx	1
ST	x	0	0	x	0000	1	1	0	0	0	1	xxxx	0
BMI	x	1	0	x	xxxx	0	0	0	0	0	1	xxxx	0
MOVE	0	0	x	0	0000	0	1	0	0	0	1	xxxx	1
CALL	1	0	x	x	xxxx	1	x	1	1	0	1	0001	0
RET	x	0	1	1	xxxx	0	x	0	0	1	0	0000	0