

Table 1: Pipeline execution

Instruction	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34		
	IF	ID	EX	MEM	WB																																
mv a7, a0		IF	ID	EX	MEM	WB																															
mv a0, a3			IF	ID	EX	MEM	WB																														
beqz a7, _label72				IF	ID	EX	MEM	WB																													
beqz a1, _label80					IF	ID	EX	MEM	WB																												
beqz a2, _label80						IF	ID	EX	MEM	WB																											
blez a3, _label84							IF	ID	EX	MEM	WB																										
mv a5, a7								IF	ID	EX	MEM	WB																									
sllii a4, a3, 2									IF	ID	EX	MEM	WB																								
add a7, a7, a4										IF	ID	EX	MEM	WB																							
lw a4, 0(a5)											IF	ID	EX	MEM	WB																						
lw a6, 0(a1)												IF	ID	EX	MEM	WB																					
add a4, a4, a6													IF	ID	EX	MEM	WB																				
sw a4, 0(a2)														IF	ID	EX	MEM	WB																			
addi a5, a5, 4															IF	ID	EX	MEM	WB																		
addi a1, a1, 4																IF	ID	EX	MEM	WB																	
addi a2, a2, 4																	IF	ID	EX	MEM	WB																
bne a5, a7, _loop																		IF	ID	EX	MEM	WB															
ret																			IF	ID	EX	MEM	WB														
li a0, -1																				IF	ID	EX	MEM	WB													
lw a4, 0(a5)																					IF	ID	EX	MEM	WB												
lw a6, 0(a1)																						IF	ID	EX	MEM	WB											
add a4, a4, a6																							IF	ID	EX	MEM	WB										
sw a4, 0(a2)																								IF	ID	EX	MEM	WB									
addi a5, a5, 4																									IF	ID	EX	MEM	WB								
addi a1, a1, 4																										IF	ID	EX	MEM	WB							
addi a2, a2, 4																											IF	ID	EX	MEM	WB						
bne a5, a7, _loop																												IF	ID	EX	MEM	WB					
ret																													IF	ID	EX	MEM	WB				
li a0, -1																														IF	ID	EX	MEM	WB			
ret																															IF	ID	EX	MEM	WB		

Stalling: a4 and a6 are not yet loaded

Stalling: a6 is not yet loaded

Stalling: a4 and a6 are not yet loaded

Stalling: a6 is not yet loaded

Stalling: a4 and a6 are not yet loaded

Stalling: a6 is not yet loaded

Stalling: a4 and a6 are not yet loaded

Stalling: a6 is not yet loaded

Stalling: a4 and a6 are not yet loaded

Stalling: a6 is not yet loaded

Stalling: a4 and a6 are not yet loaded

Stalling: a6 is not yet loaded

Stalling: a4 and a6 are not yet loaded

Stalling: a6 is not yet loaded

Stalling: a4 and a6 are not yet loaded

Stalling: a6 is not yet loaded

Stalling: a4 and a6 are not yet loaded

Stalling: a6 is not yet loaded

Stalling: a4 and a6 are not yet loaded

Stalling: a6 is not yet loaded

Stalling: a4 and a6 are not yet loaded

Stalling: a6 is not yet loaded