

Speculative Execution with Tomasulo

TABLE 1. Reservation Stations

Unit name	Busy	Operation	Vj	Vk	Qj	Qk	Dest
Add1							
Add2							
Add3							
Mult1							
Mult2							

TABLE 2. Reorder Buffer

Entry	Busy	Instruction	Issue	Ex Comp	Write Res	Commit	Dest	Value
1		LD F0, 0(R1)	1	2	3	4	F0	M[R1]
2		MULTD F4, F0, F2	2	13	14	15	F4	mult result
3		SD 0(R1), F4	3	XX	XX	16		F4 value
4		SUBI R1, R1, #8	4	5	7	17		
5		BNEZ R1, LOOP	5	6	8	18		prediction wrong
6		LD F0, 0(R1)	6	7	8	(flush)		
7		MULTD F4, F0, F2	7	18		(flush)		
8		SD 0(41), F4	8	XX	XX	(flush)		
9		SUBI R1, R1, #8	9	10	11	(flush)		
10		BNEZ R1, LOOP	10	11	12	(flush)		

TABLE 3. Load/Store Unit Status

Unit	Busy	Address	Dest	Unit	Busy	Address	Qj
Load1				Store1			
Load2				Store2			
Load3				Store3			
Load4							
Load5							
Load6							

TABLE 4. Register Result Status

Register	F0	F2	F4	F6	F8	F10	F12
Fj							