

Your name: .....

Instruction				finishing times			
	j	k		IS	RPO	EXE	WR
ADDD	R5	R4	R2	1	1		
SUBD	R3	R1	R2				
MULTD	R3	R3	R5				

  

RS	RS Tag	Busy	Op	Vj	Vk	Qj	Qk
Add1	1	Y	add	1000	00	0	0
Add2	2						
Mult1	3						
Mult2	4						

  

Integer Reg #	Q	V
1		
2		
3		
4		
5	1	-
6		
7		

Figure 2: Clock cycle <sup>1</sup>.....

Instruction				finishing times			
	j	k		IS	RPO	EXE	WR
ADDD	R5	R4	R2	1	1		
SUBD	R3	R1	R2	2	2		
MULTD	R3	R3	R5				

  

RS	RS Tag	Busy	Op	Vj	Vk	Qj	Qk
Add1	1	Y	add	1000	00	0	0
Add2	2	Y	sub	100	00	0	0
Mult1	3						
Mult2	4						

  

Integer Reg #	Q	V
1		
2		
3	2	-
4		
5	1	-
6		
7		

Figure 3: Clock cycle <sup>2</sup>.....

Your name: .....

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				finishing times			
Instruction		j	k	IS	RPO	EXE	WR
ADDD	R5	R4	R2	1	1	3	
SUBD	R3	R1	R2	2	2		
MULTD	R3	R3	R5	3			

  

RS	RS Tag	Busy	Op	Vj	Vk	Qj	Qk
Add1	1	Y	add	1000	0	0	0
Add2	2	Y	sub	100	0	0	0
Mult1	3	Y	mul			2	1
Mult2	4						

  

Integer Reg #	Q	V
1		
2		
3	3	-
4		
5	1	-
6		
7		

← watch

Figure 4: Clock cycle 3...

				finishing times			
Instruction		j	k	IS	RPO	EXE	WR
ADDD	R5	R4	R2	1	1	3	4
SUBD	R3	R1	R2	2	2	4	
MULTD	R3	R3	R5	3			

  

RS	RS Tag	Busy	Op	Vj	Vk	Qj	Qk
Add1	1	N					
Add2	2	Y	sub	100	0	0	0
Mult1	3	Y	mul		1000	2	0
Mult2	4						

  

Integer Reg #	Q	V
1		
2		
3	3	-
4		
5	0	1000
6		
7		

Figure 5: Clock cycle 4....

Instruction				finishing times			
		j	k	IS	RPO	EXE	WR
ADDD	R5	R4	R2	1	1	3	4
SUBD	R3	R1	R2	2	2	4	5
MULTD	R3	R3	R5	3	5		

  

RS	RS Tag	Busy	Op	Vj	Vk	Qj	Qk
Add1	1	N					
Add2	2	N					
Mult1	3	Y	mult	100	1000	0	0
Mult2	4						

  

Integer Reg #	Q	V
1		
2		
3	3	-
4		
5		
6		
7		

Figure 6: Clock cycle ...5..

Note how we at SUB does  
NOT write register file.

Instruction				finishing times			
		j	k	IS	RPO	EXE	WR
ADDD	R5	R4	R2	1	1	3	4
SUBD	R3	R1	R2	2	2	4	5
MULTD	R3	R3	R5	3	5	15	16

  

RS	RS Tag	Busy	Op	Vj	Vk	Qj	Qk
Add1	1	N					
Add2	2	N					
Mult1	3	N					
Mult2	4						

  

Integer Reg #	Q	V
1		
2		
3	0	10000
4		
5		
6		
7		

Figure 7: Clock cycle ...16