Quiz-5

Instruction / clock	1	2	3	4	5	6	7	8	9	10
Inst-1	F	D	E			W				
Inst-2	F	D	E			W				
Inst-3		F	D			E		W		
Inst-4		F	D			E		W		
Inst-5			F	D				E	W	
Inst-6			F	D					E	W

Quiz-6

1

Register renaming is a technique that usually increases the usability of same type of registers without any conflicts. So it mean we can use the same register in processor by rename those registers in different instruction execution.

2

We can remove write after write (WAW) and write after read (WAR) dependencies by Register renaming.

For example to avoid these dependencies we can write the following code

$I_1 : R3_b \leftarrow R3_a + R5_a$

$I_2 : R4_b \leftarrow R3_b + 1$

$I_3 : R3_c \leftarrow R5_a + 1$

$I_4 : R7_b \leftarrow R3_c + R4_b$

3

Out-of-order issuing policy prefer this technique.