

Date: 2017/05/09

Student ID:

Name:

Given the following sequence of instructions, if there's full forwarding in the pipelined processor, indicate hazards and insert "nop" (no operation) instructions to eliminate them.

or r1, r2, r3	IF	ID	EX	MEM	WB	
or r2, r1, r4		IF	ID	EX	MEM	WB
or r1, r1, r2			IF	ID	EX	MEM WB

W/ ALU-ALU  
W/ MEM-ALU

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Name:

Given the following sequence of instructions, if there's no forwarding in the pipelined processor, indicate hazards and insert "nop" (no operation) instructions to eliminate them.

or r1, r2, r3	{	nop	IF	ID	EX	MEM	WB	
or r2, r1, r4	{	nop		○	○	IF	ID	EX MEM WB
or r1, r1, r2	{	nop				○	○	IF ID EX MEM WB
	{	nop						