

1 play · 78 players



🖧 A kahoot by Penn State

Questions (8)

1 - Poll

Honestly, how much have you understood about OoO?

20 sec



> 90%



~70%



~50%



< 30%

2 - Quiz

What will the div instruction's two source registers renamed into?

RAT

90 sec



div, -1, 2



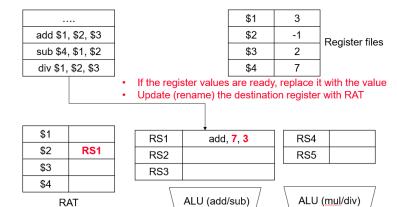
div RS1, 2



div -1, RS4



div RS1, RS4



ALU (add/sub)









3 - Quiz

90 sec What will NOT happen after the instruction from RS1 is executed? Source register values for instructions in the RS will be updated **Dispatch (Again, Slightly Incorrect)** Register files \$1 3 Register file will be updated \$2 \$3 \$4 RAT will NOT be freed \$1 RS3 RS1 RS4 div, RS1, 2 RS1 \$2 RS2 sub, RS4, RS1 RS5 \$3 RS3 add, RS1, 2 RS2 \$4 RS1 will be freed ALU (add/sub) ALU (mul/div) RS1 = 10 4 - Quiz 60 sec Why did we introduce ROB? To support reordering To support renaming To support precise interrupt To support data forwarding 5 - Quiz 90 sec What does NOT happen after executing the instruction w/ ROB? The reservation station is freed **ROB** is updated The source registers in the reservation station is updated Dispatch w/ ROB The register file is updated Register files ROB <□ commit 3 \$2 -1 \$2 \$1 \$3 2 \$4 \$4 \$1 <□ issue ROB4 \$1 ROB1 add, 7, 3 ROB2 div, ROB1, 2 ROB1 \$2 ROB3 sub, ROB2, ROB1 \$3 ROB4 add, ROB1, 2 ROB3 ALU (add/sub) ALU (mul/div) RAT 10

6 - Quiz 30 sec What is true about modern OoO processor? It issues instructions out-of-order It executes instructions out-of-order It commits instructions out-of-order All of above 7 - Quiz 60 sec If you are immediately loading from an address that you just stored to, you will probably read from... cache memory load-store queue (LSQ) **ROB** 8 - Quiz 60 sec Why is my Arduino not OoO? Because it can become expensive Because it can become high power Because you probably does not need such a high performance

Resource credits

Description: Anita Kot/Moment/Getty Images

All of the above