

Project 07

Pipeline Hazards

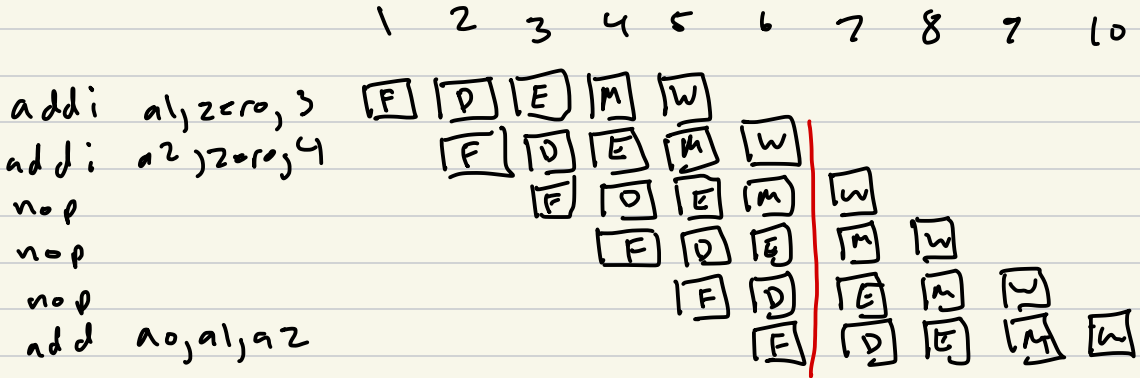
4 types of modifications

✓ 1) Invert the clock to the Reg File

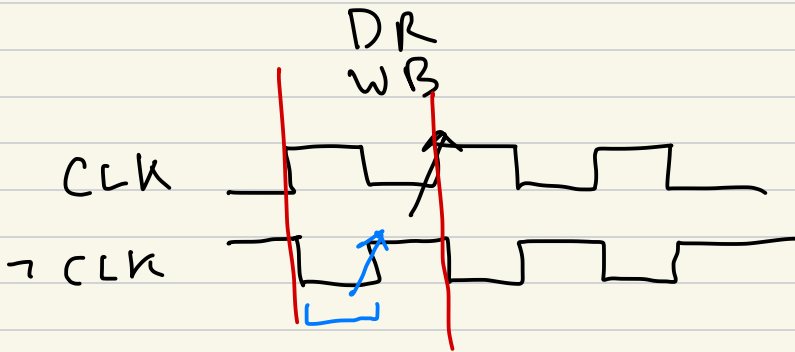
✓ 2) Forwarding

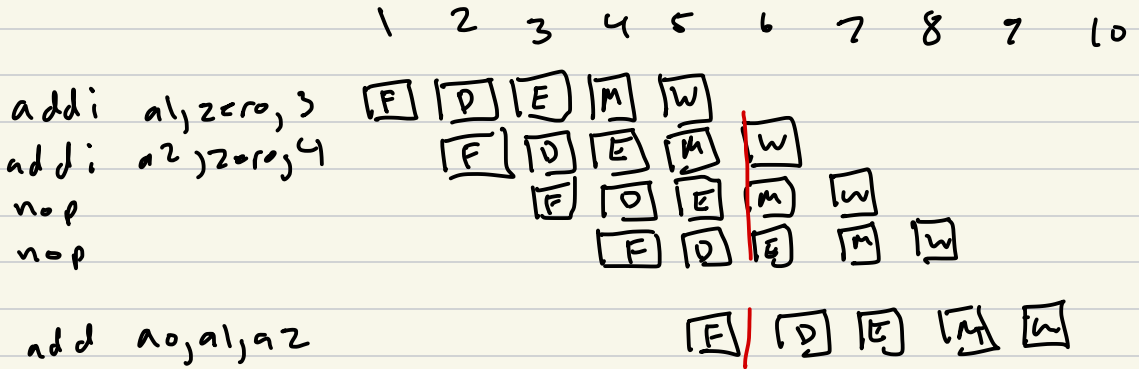
3) LD Stalling

4) Control Hazards



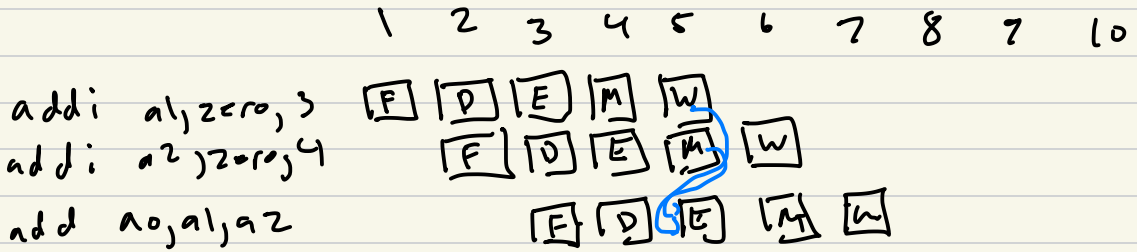
Eliminate one nop by inverting the RegFile clock:





10 cycles to 9 cycles

Forwarding



7 cycles