



Project3

MIPS SIMULATOR

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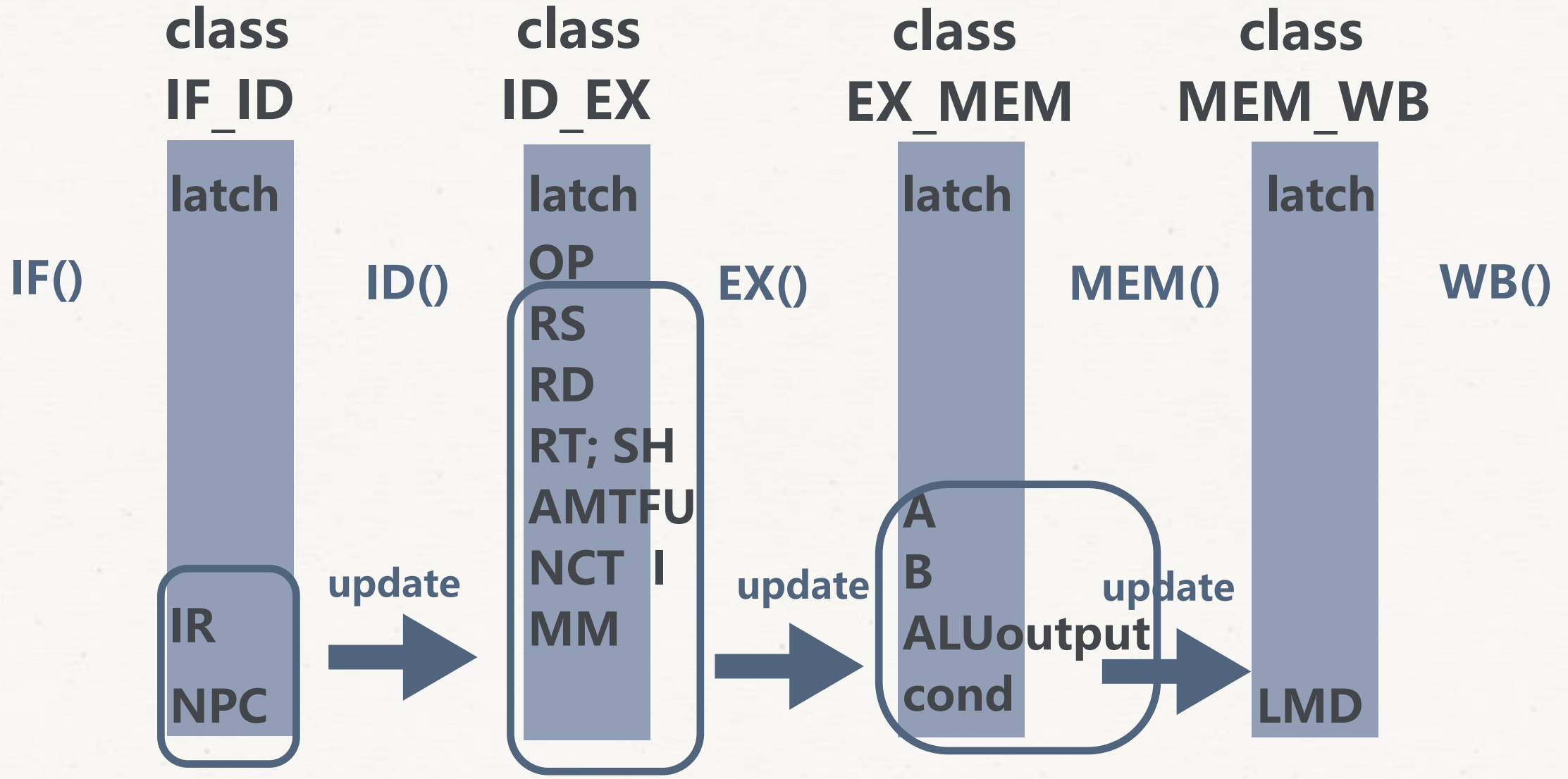
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Program structure





Hazards



control hazard

IF(): if (beq_flag==1); //stall

ID(): if (id_ex.getOP()=="000100");**beq_flag=1**;//detect control hazard

EX(): if (ex_mem.getOP()=="000100");**beq_flag =0**;//reset beq_flag



data hazard

ID(): compare the operate Reg number of the present IR with the destination Reg number of the last IR.

data_flag=1;//detect data hazard

PC-1;

set present IR to a blank string-----id_ex.setIR("");//stall

WB(): **data_flag =0**;//reset data_flag



structure hazard

3

Problems

PROBLEM: Chaotic program structure.

Firstly, just created one latch class to contain all latches.
Than change to use 4 latch classes.



PROBLEM: Data hazard and only can stall once.

The second time detect doesn't work.
Than change read data step from ID() to EX().

Thank You~