1. Recall the modifications needed for the ID stage to accommodate Condition Evaluation Unit. Complete the ID stage block diagram below. Show all the inputs and outputs to all the blocks in the ID stage. Add any missing components.
a. Write down the conditions of the Forwarding Unit in the ID stage. Assume that this FU in ID caters only to the CEU (it is responsible to eliminate data hazards of branch instructions).
b. Write the stall condition separately. The stall signal is output by the Hazard detection unit (The FU does not output a stall signal – only handles data forwarding).
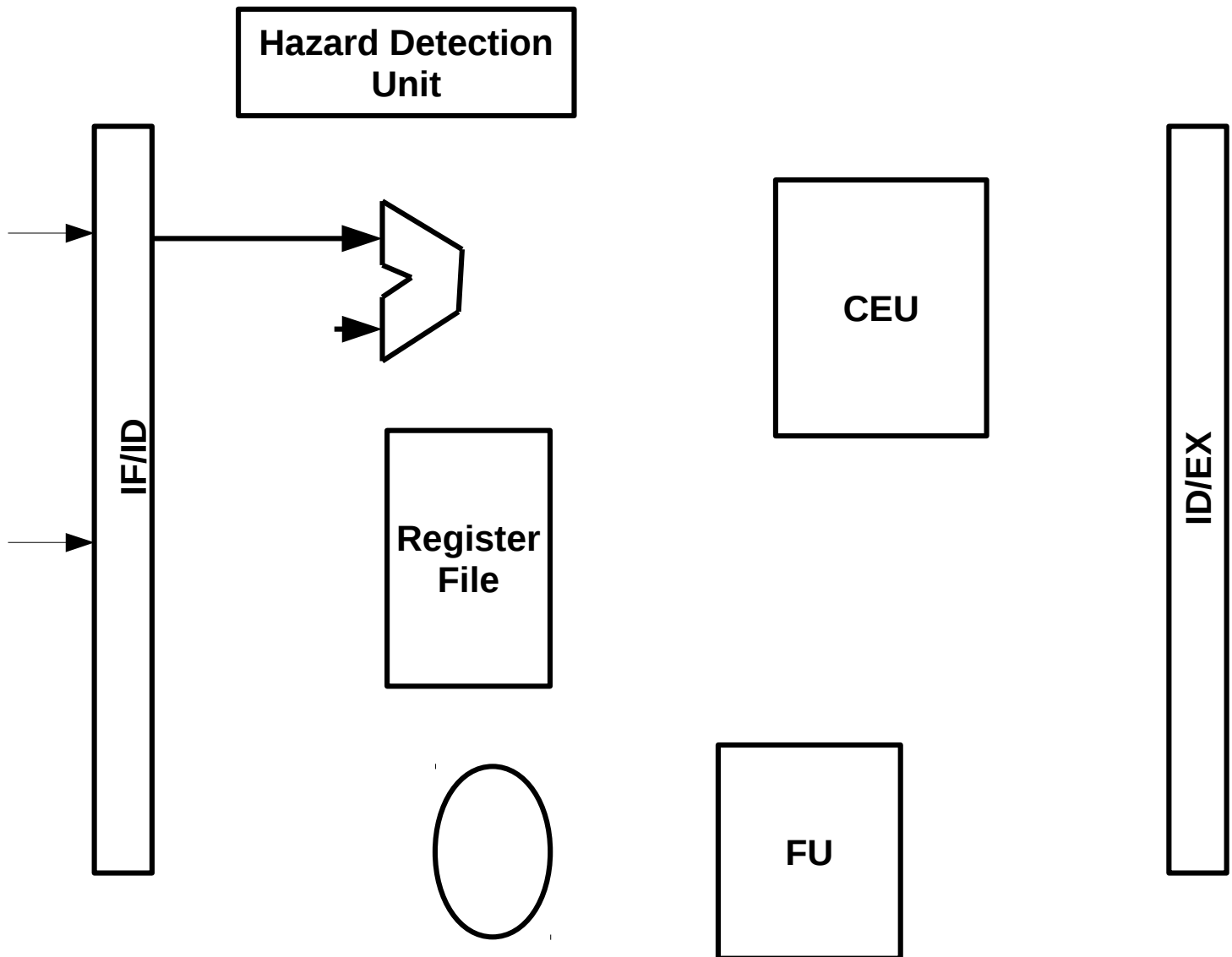
2. Write the following versions of the pipeline timing diagrams for the code shown.
Assume full forwarding support. Calculate CPI for a loop with 100 iterations.
a. Branch is evauated and NPC updated in the ID stage.
b. Processor attempts to fill the Branch delay slot if possible.

```
L: LD R1, 0(R2)
   ADDI R1, R1, 1
   SW R1, 0(R2)
   ADDI R2, R2, 4
   SUB R3, R3, 1
   BNEZ R3, LOOP
```

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