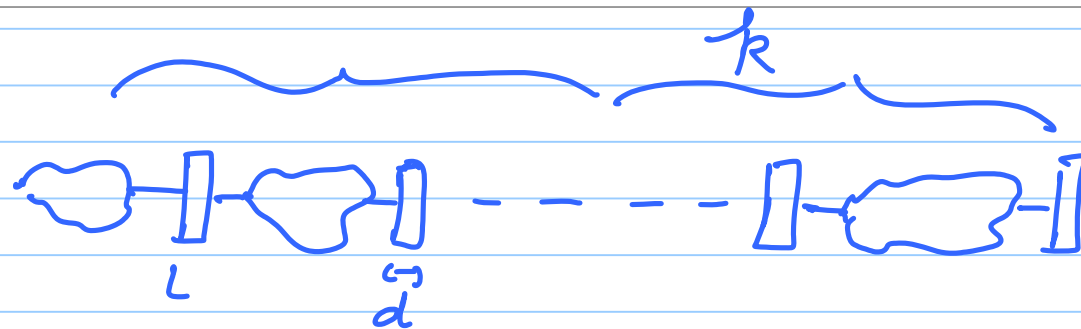


Sep-28 (DELHI)

Note Title

28-09-2012



Algorithmic Work: A

Work per stage: A/k

$$T_c \geq A/k + d$$

$$T_c = \frac{A}{k} + d$$

$$H_{\text{cost}} = mk + c$$

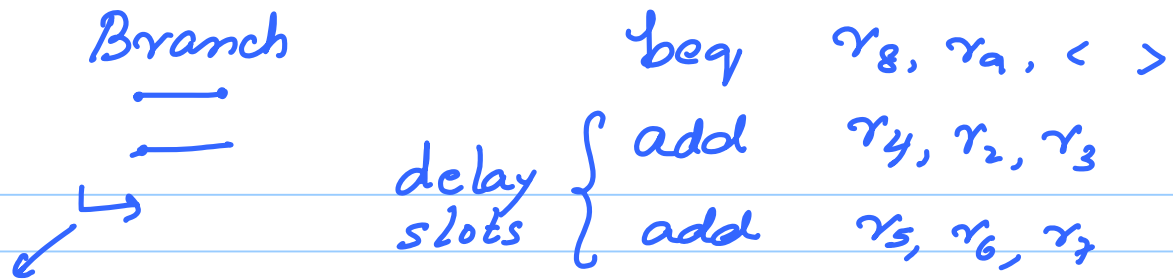
- 1) Data Hazards
- 2) Control Hazards
- 3) Structural Hazards

Delayed Branch.

add r_4, r_2, r_3

add r_5, r_6, r_7

beq $r_8, r_9, < >$



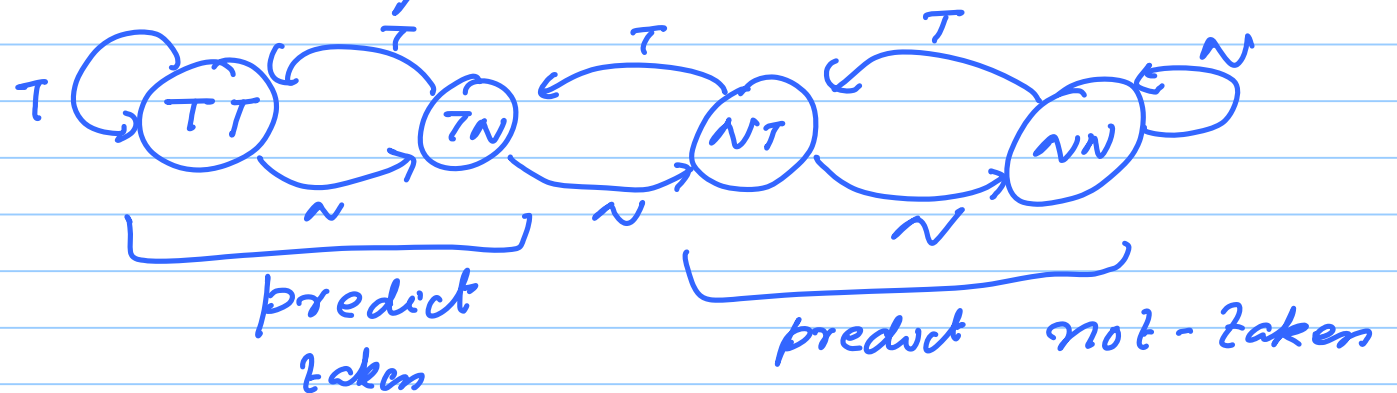
Insert a NO-OP

Branch Prediction

Simple:

- 1) Always Taken (80%)
- 2) Single bit \rightarrow same as last time

3) Two-bit predictor:



2-bit saturating counter

4) Bimodal pred.

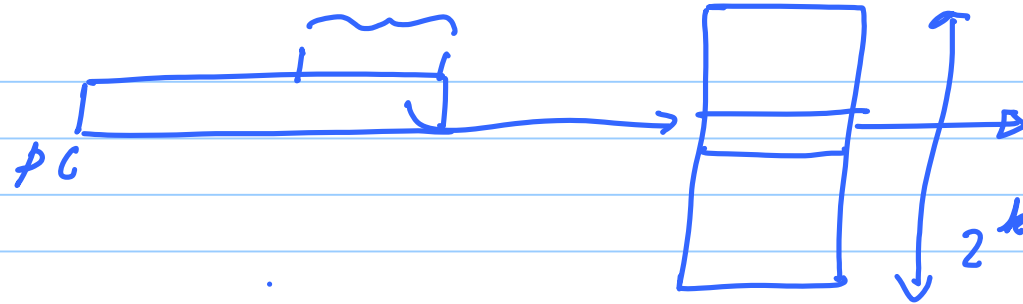


Table of 2-bit saturating
counters.