## W14D1-Notes

## Review

## **Pipeline**

- Hazard 流水线停动
  - structure
    - 复制
  - data
    - True
      - 硬件解决方法
        - forwarding
        - Out of Order(Tomasulo)
          - 害怕branch和Interrupt (Rob解决)
          - issue exe cbd
      - 软件解决方法
    - Pseudo
      - renaming
  - control
    - 消灭控制语句
      - Conitional ex
        - e.g. MOV.C、LD.C

## **AMAT**

ullet  $AMAT_\$ = T_{hit} + \eta_{miss-rate} imes T_{penalty}$