

Pipelining

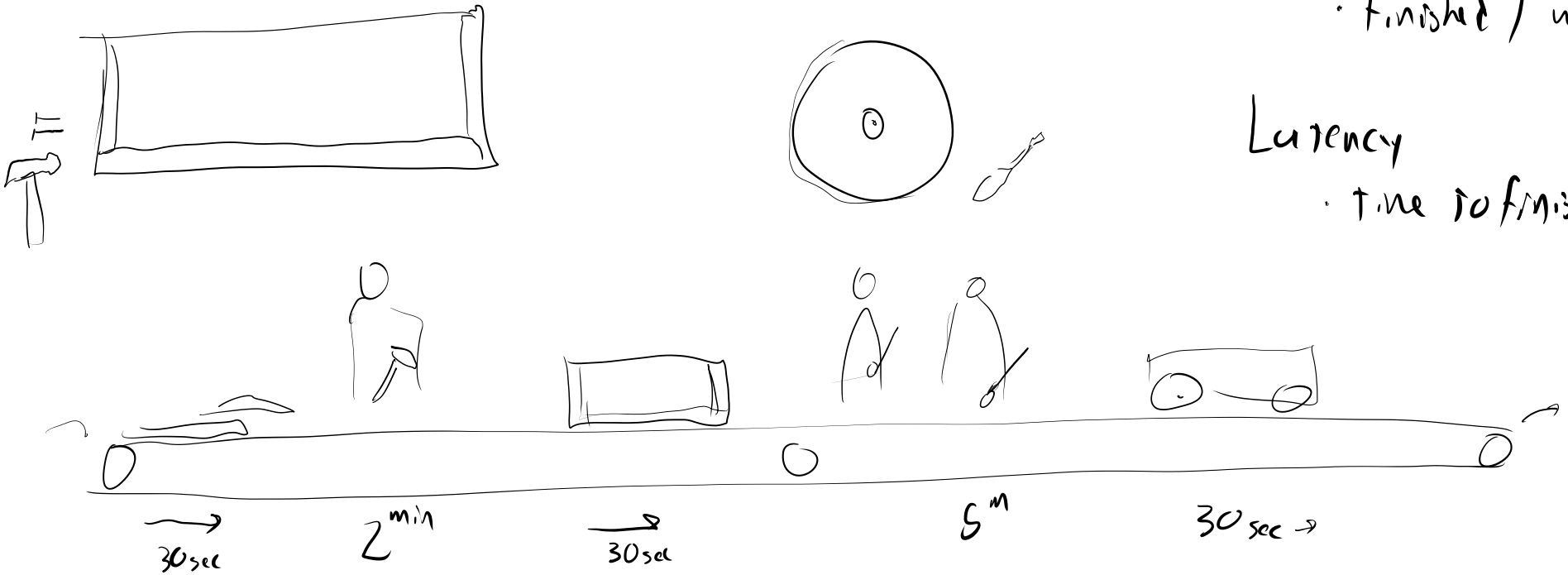
assembly line

Throughput

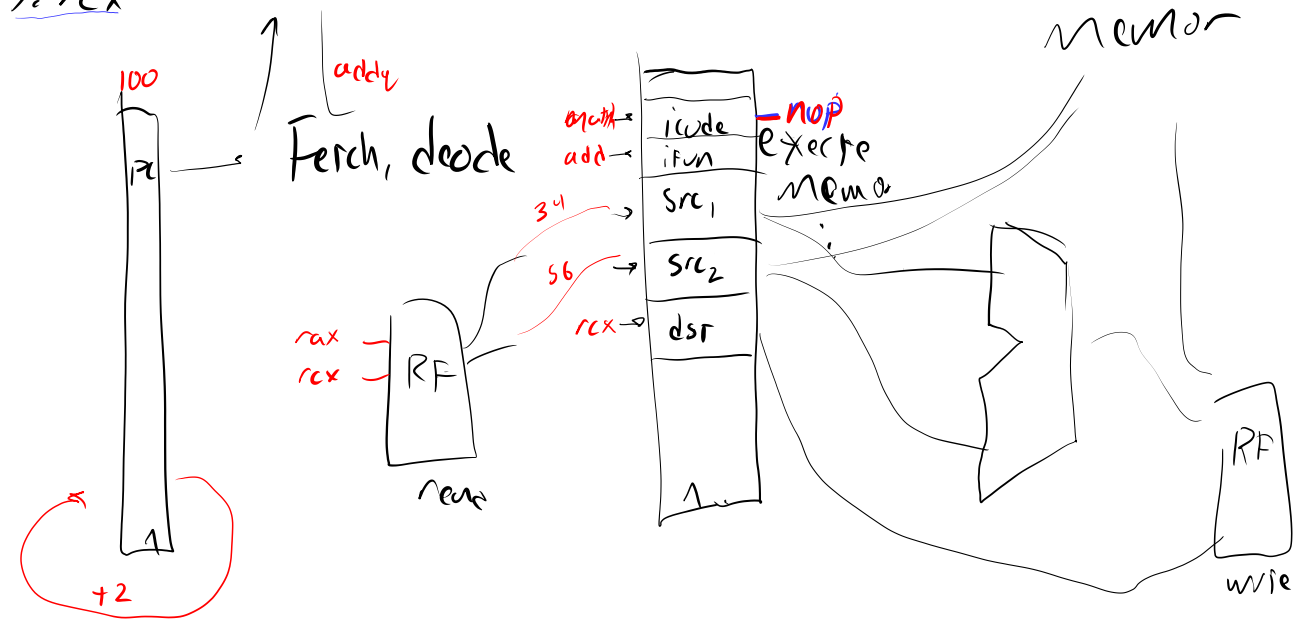
• finished / week

Latency

• time to finish 1

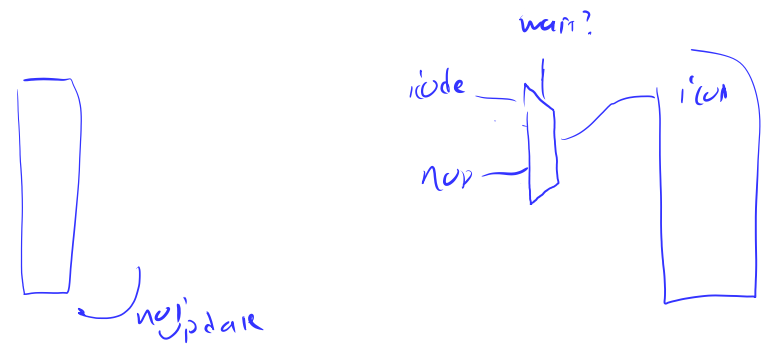
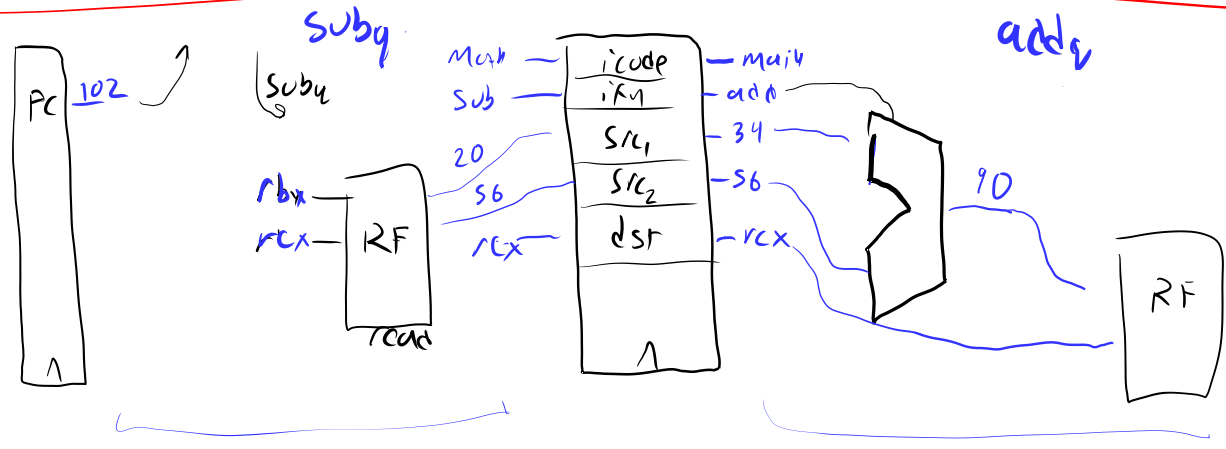


100 | addq 34 %rax, %rcx
 102 | subq 20 %rbx, %rcx



idle - no-operation

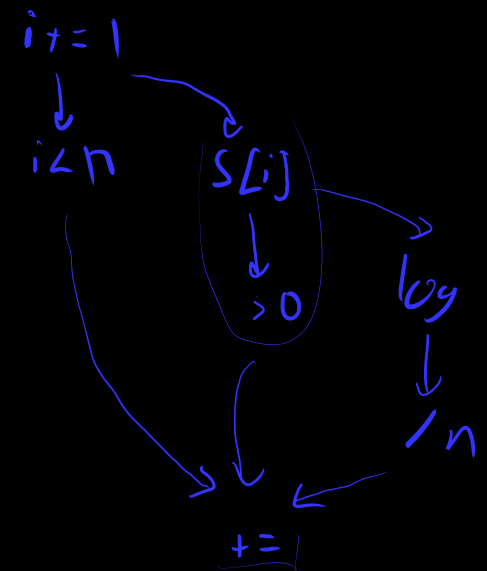
tick



dependency graph

data flow

000



C:
i += 1
i < n
S[i]
> 0
log
/ n
+=

i += 1
S[i]
log
> 0
/ n
-> i < n
+=

dependency reaction

wait

forward

guess

+ why to check

I don't know the value,
but trust me, it will be in spot x
when needed

+ undo