Today (3/7)

- Handout @ Front:

  Take one now!

  (Feel free to get for those near you)

  [2 piles!]

Condition Variables (CV)

-) Classic Problems

  => Fork/Join (Side #1 of Handout)

  => Bounded Buffer

(Side #2)

"Solution" 2: No Lock

why broken?

Parent:
  creates child
  checks if done == 0 : No
    interrupted yes

Child:
  done = 1
  signal // no waiter

Parent:
  waits (forever)

No State Variable:

Solution 4: 2 Questions

1) order of lines

1) ... in child: matter?

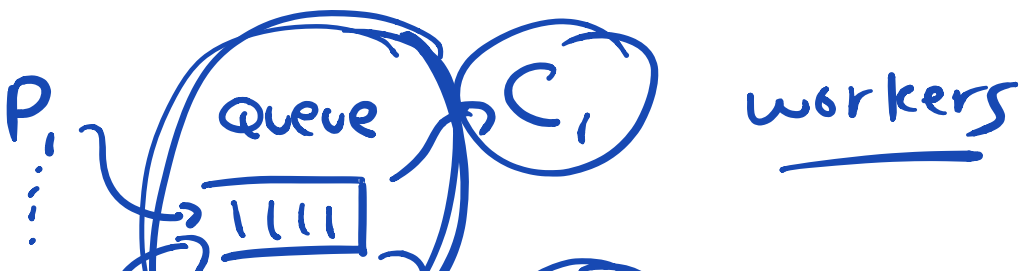
2) how to wait for N children?

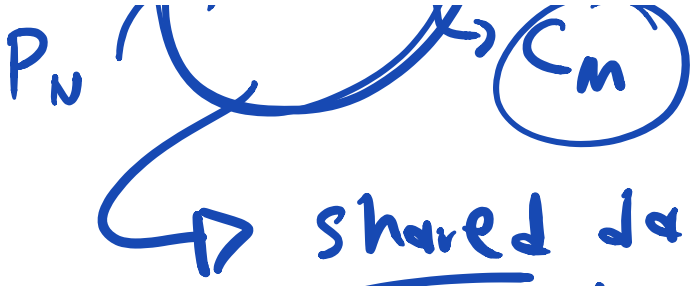
Bounded Buffer OR Producer/Consumer Queue

1 or more "producer" threads

and

1 or more "consumer" threads





shared data structure

aha! [locks needed]

extra reqmt: bounded queue

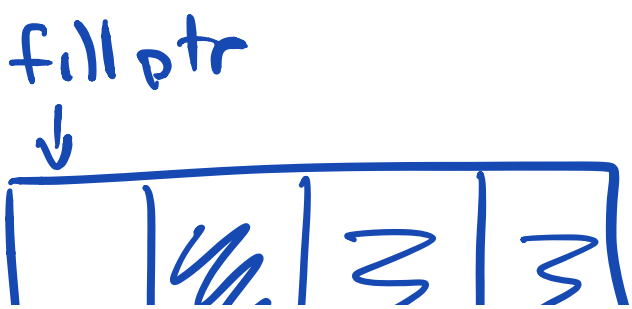
(fixed size)

why?

example:

unix pipe

=>



useptr

numfull = ~~0~~

~~4~~ 3

(runnable)

P P_1 P_2 P_4 P_5 P_6 P_1 P_2 P_3

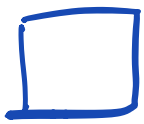
C

C_1 C_2 C_4

C_5 C_6 . . .

max: 1

numfull: 0 0 1



Mystery:

C_1

C_2

P:

what happens if C_1, C_2 run first?

how does that end POORLY?