

OS problem (mutexes, threads)

Bills

B = get()
 put(B)
 clear()
 sum() // returns
 the total

Bank

has getBalance()
 withdraw(B)

Records

B = get()
 put(B)
 clear()
 sum()

maybe?

B = smallest() // returns
 smallest

Algo (for each thread)

get a bill (B = Bills.get())
 if (Bank.getBalance() > B.amount)
 Bank.withdraw(B.amount)
 Records.put(B);
 else
 Bills.put(B)

Main

populate Bills (put())
 populate Bank ()
 clear Records

{ print Bank.getBalance()
 print Bills.sum() }

start threads
 wait on threads

compose

build objects

- ① how many sync objects? (want max speed)
- ② how do threads exit?
 - ① if all bills paid
 - ② if 1 bill is too high & is never paid { maybe just get smallest bill all the time? }
- ③ use global locks
- ④ use internal locks to Bills, Bank, Records