Assignment #5

a) Reasoning:

(1) - Global lock for students

(2) - Capacity sem needed to know how many drinks are in the machine

(3) — Coins sem needed to keep track of how many coins are inserted per drink!

(4) — Lock needed to notify when drink has been dispensed.

So:

(1) => sem lock = 1

(2) => sem capacity = C

(3) => sem coins = 0

(4) => sem drink_avail = 0

Psevdo-Code:

Student:

1) down(lock)
2) for 1..N:
   insert_coin()
   up(coins)
3) down(drink_avail)
4) pickup_drink()
5) up(lock)

Machine:

1) for 1..N:
   down(coins)
2) down(capacity)
3) dispense_drink()
4) up(drink_avail)

Supplier:

1) collect_coins()

2) for 1..N:

    up(capacity)