Project 2 Design

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Semaphores: semaphore(initialvalue) : description

* Checkin(0) : Notifies front desk that guest is ready to check in
* FDAvailable(0) : Notifies customer that front desk is available
* BHAVailable(0): Notifies customer that bellhop is available
* custExchanged(1): customerNo ready to be exchanged(initialize to one because it sends after each exchange is complete.
* getBH(0): customer requests a bellhop
* gotBags[NUM\_CUST](0) : bellhop got bags from the customer
* giveBags[NUM\_CUST](0): bellhop gives bags to the customer
* entersRoom[NUM\_CUST](0) : customer has entered the room
* giveTip[NUM\_CUST](0) : customer has given tip to the bellhop

Guest() {

cust = guestno

CheckIn()

wait FDAvailable

wait custExchanged

share cust

send checkIn

wait giveRoom[cust]

getRoom()

if # bags > 2

getBellhop()

wait BHAvailable

wait custExchanged

share cust

send getBH

wait gotBags[cust]

enterRoom()

if # bags > 2

send entersRoom[cust]

wait giveBags[cust]

getBags()

send giveTip[cust]

Retire()

}

FD() { //front desk

while (true) {

send FDAvailable

wait checkIn

get cust

send custExchanged

giveRoom()

send giveRoom[cust]

}

}

BH() { //bellhop

while (true) {

send BHAvailable

wait getBH

get cust

send custExchanged

getBags()

send gotBags[cust]

wait entersRoom[cust]

giveBags()

signal giveBags

wait giveTip[cust]

}

}