David Jannotta
HW2
2/19/2014

Problem 1:

```
Var mutex = 1; binary semaphore;
Var bus = 0; binary semaphore;
Var waitingList = 0; nonbinary semaphore
Var seatCount = 60;
Var time = 0600;


Ticket Agent process:
        Wait(mutex)
        if(seats =< 60)
                SeatsAvailable--;
        Elseif waitingList < 50
                Signal(waitinglist)
                waitingList++
        else
                customer.goHome()
        signal(mutex)

Customer process:
        Wait(ticketagent)
        Buy ticket
        Boardbus()
        signal(ticketagent)
```

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Problem 2:

```
Var mutex = 1; binary semaphore;
Var bus = 0; binary semaphore;
Var waitingList = 0; nonbinary semaphore
Var waitlistCount = 0;
Var firstCount = 20
Var seatCount = 60;
Var time = 0000;

Customer()
        Groupsize = n
        Bool firstclass
        Signal(ticketagent)
        Wait(ticketagent)


Ticket Agent process:
        Wait(customer)
        If customer.group or customer.firstclass
                If firstCount <= customer.groupSize
                        SellTickets()
                        firstCount -= customer.groupSize        //Decrement group
                        signal(bus)
                Elseif waitlistcount + customer.groupSize < 50  //see if the group should go home
                        Signal(waitlist)
                        waitlistCount += customer.groupSize     //add customer's group to waiting list
                else
                        goHome()
        else
                if secondCount or seatCount !> 0
                        sellTicket()
                        seatCount--
                elseif waitlistcount < 50
                        waitlistCount++
                        signal(waitlist)
                else
                        goHome()

bus process:
        while(time%300 != 0)
                wait()
        leave();
```

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