Due: March 6 at 4pm

1) You are given a game with 3 players and 3 colors (red, blue, green). You must ensure that players move pieces in the order: red, blue, green. Write a monitor class (using JAVA pseudocode) for the players to call MoveRed, MoveBlue, MoveGreen. Assume that red always starts.

```
class players_monitor {
        private volatile int move = 1;
        public synchronized void MoveRed(){
                while (move != 1){
                        wait();
                }
                print("Red Piece Moved");
                move = 2;
                notifyAll();
        }

        public synchronized void MoveBlue(){
                while(move != 2){
                        wait();
                }
                print("Blue Piece Moved");
                move = 3;
                notifyAll();
        }
        public synchronized void MoveGreen(){
                while(move != 3){
                        wait();
                }
                print("Green Piece Moved");
                move = 1;
                notifyAll();
        }
}
```

The full semaphore is used to count the items that have been added to the buffer and are available for consumption. The value of full cannot exceed N, since the value of full can only be incremented if the value of empty is decremented, and the max items allowed for by empty is N.

The empty semaphore is used to bound the internal buffer, which allows for N items max.