ECON 381 Homework-2

1. During game play you will add and remove keys to the board. What kind of operations would that mean? Please elaborate

ANSWER:

- Operations needed:

✓ Insert new key in sorted order

✓ Remove specific key

✓ Group matching keys

✓ Reorder keys for different combinations

✓ Split/merge groups when adding/removing

2. To determine if a user is done, what kinds of checks would you need to do? Please elaborate.

ANSWER:

- Need to verify:

✓ All 14 keys are used

✓ Each group has 3+ consecutive numbers of same color

✓ OR each group has same number with different colors

✓ OR exactly 7 pairs exist

✓ No key is used in multiple groups

✓ Groups are valid per rules

3. Given the OkeyKey class available and given your discussion for the above two topics, would you rather hold the 14 keys in the Okey board in a single fixed size Java array? Or would you have multiple arrays or linked lists to hold the blocks? Please elaborate.

ANSWER:

```
class OkeyBoard {

  LinkedList<LinkedList<OkeyKey>> groups;
```

LinkedList<OkeyKey> unassignedKeys;

}

- Linked Lists are better than arrays because:

✓ Easy to add/remove keys

✓ Dynamic grouping

✓ No size limitations

✓ Efficient for insertions/deletions

- Arrays would be problematic due to:

✓ Fixed size

✓ Hard to maintain groups

✓ Inefficient reorganization

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