

Homework Assignment 2

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

A: It may change in game but first in first out is more logical for this situation. Because in the beginning of the game (if you are lucky) you already have a few blocks in your hands. But apart from the blocks, there will be keys that you do not want in the game. And you need to remove them. And you need to get new keys instead of the ones you left behind. As a result, generally it is more in line with the first in, first out principle.

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

A: The user's goal should always be to finish the keys in his hand. When the total number of blocks he has made exceeds 101, the user can place the keys in his hand on the table and thus begin to reduce his hand.

Q 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?

A: To answer this question, the advantages and disadvantages of both should be mentioned.

1. One-dimensional fixed Java array

Advantage:

- Arrays are more efficient in terms of memory and provide fast access with direct indexing.
- Since the number of tiles in the Okey game is fixed (14), it is appropriate for the array size to be fixed.

Disadvantage:

- Since the size of the array is fixed, dynamic addition/removal operations are difficult.
- Arranging the tiles in order or changing their place requires extra code (manual shifting).

2. Multiple Arrays

Advantage:

- Adding, removing and changing tiles are easy.
- Tiles can be managed more naturally by dividing them into groups and series.
- In the real game, groups and series are created when the tiles are arranged, this structure represents this better.

Disadvantage

- Linked lists use more memory than arrays and have longer access times (no indexing).
- More coding and error checking is required for list management.

Conclusion: Using multiple arrays is a more logical choice as it keeps the game's operation and realism high.