

Game of Set, Part III

60 points (Full documentation on all classes but GUI, abbreviated documentation on GUI class(es))

Due Monday, December 4th

You must submit ALL files required to run your game in one zip file.

This final phase of implementation for your game will be applying a graphical user interface, using JavaFX. I have demonstrated my implementation, however, you are not bound to my GUI design decisions. Be creative!

When the game begins, the user should be presented with the 12 face up cards, the number of cards remaining in the deck, and a means to select a card, deselect a selected card, add three cards to the face up cards (1 to the end of each row) or exit the program.

When a card is selected, there should be some visual indication. When a card is deselected, the visual indication should be removed. When 3 cards are selected, the game should evaluate the 3 cards to determine if they form a set. If they do, remove the cards and replace them with 3 new cards from the Deck. If the 3 cards do not form a set, remove the selection on the 3 cards and take no further action.

If there are at least 3 cards left in the Deck and less than 18 cards currently face up, the user may choose to "Add 3" cards to the face up cards.

At any point, the user should be able to terminate the game.

You may make minor modifications, if needed, to your existing classes, however, your GUI should be independent of the other classes. Your GUI class (or main GUI class if you choose to have multiple classes – not req'd) will have an instance of the Game class. You are 'unplugging' the GameText class and 'plugging in' in the GUI version.

Rubric

(10) Reasonable layout of GUI

(8) Accurate display of all cards (individually).

(5) Accurate display of board (initially 4 cards face up)

(2) Indicate number of cards in Deck remaining

(5) Cards are selectable/unselectable

Determine if 3 cards are a set (automatic when 3 cards are selected)

- (10) Replace cards if set
- (3) Unselect Cards if not set

(10) Add 3 cards to board

(5) Add 3 ability taken away if less than 3 cards in deck or 18 cards showing

(2) Exit

(-10) GUI implementation integrated into Game classes.

Extra credit (each item must be implemented completely to receive the indicated points)

(3) When the user successfully finds a set, the three cards are replaced with three new cards. For the base implementation, you may always take the cards from the top of the deck. In the real game, if there are more than 12 cards on the board, a set is replaced by existing cards on the board, reducing the number of cards on the board by 3. Implement this change in functionality.

(3) Cheat button – at the user's request, if there is a set on the board, it will be identified. If there is not set, issue a message.

(2) If there are no cards left in the deck AND there are no sets remaining on the board, indicate to the user that the game is over. In the required (non-extra-credit) implementation, the user will have all remaining cards face up, but have to "exit" when they believe there are no sets.

(3) New Game – a button that starts a new game