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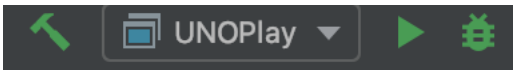
Environment setup:

Junit 5.7.1

IntelliJ 2019.3.5

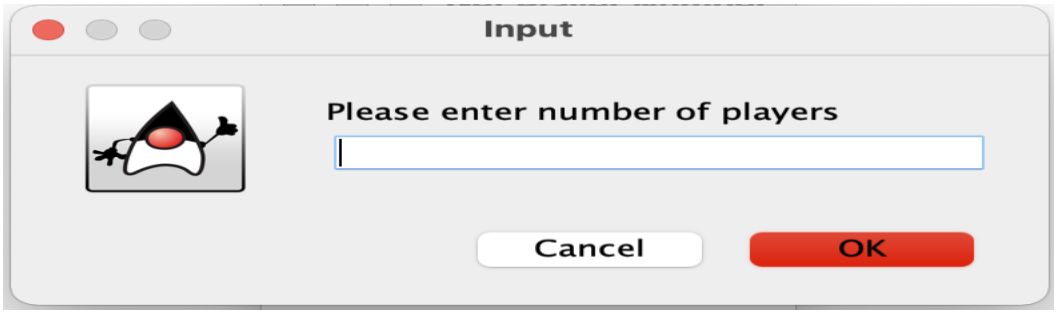
By clicking this start button, the game will begin by running the Main.java

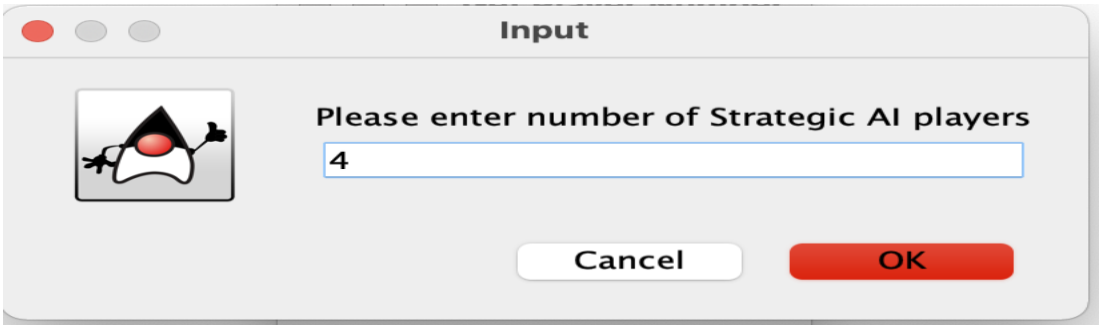


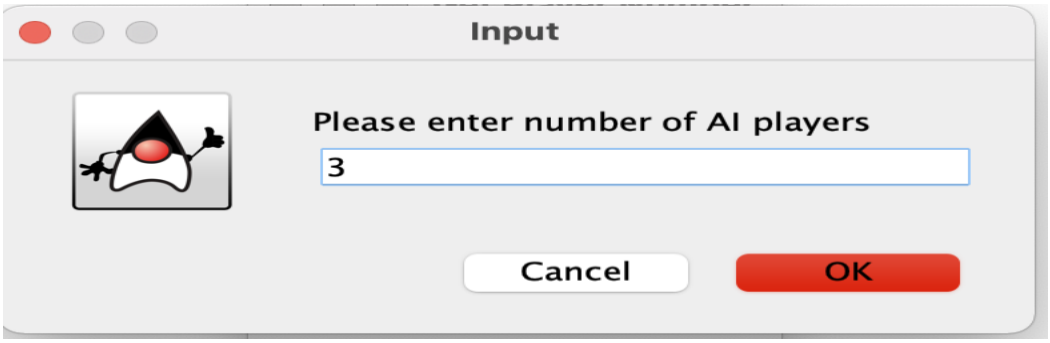
Before entering the game, the player has to enter the number of players, number of AI players, and number of strategic AI players to initialize the game.

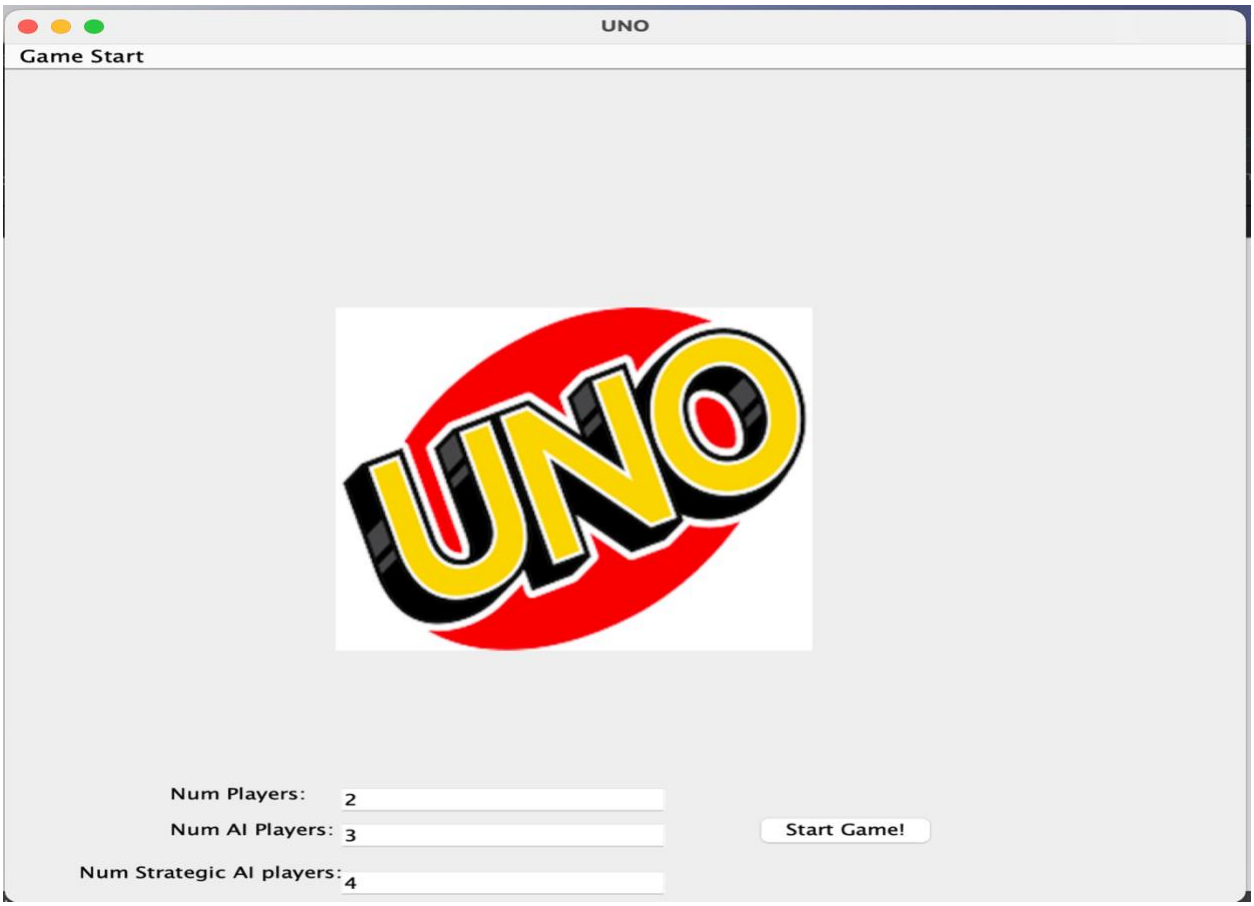
If the player entered a non-integer string, the system will detect this error and will pop up an alert, and will not start the game.

After the player entered three consecutive integers for number of players, number of AI players, and number of strategic AI players correctly, the user can click “start” button to start the game officially.


Input
Please enter number of players
Cancel
OK


Input
Please enter number of Strategic AI players
4
Cancel
OK

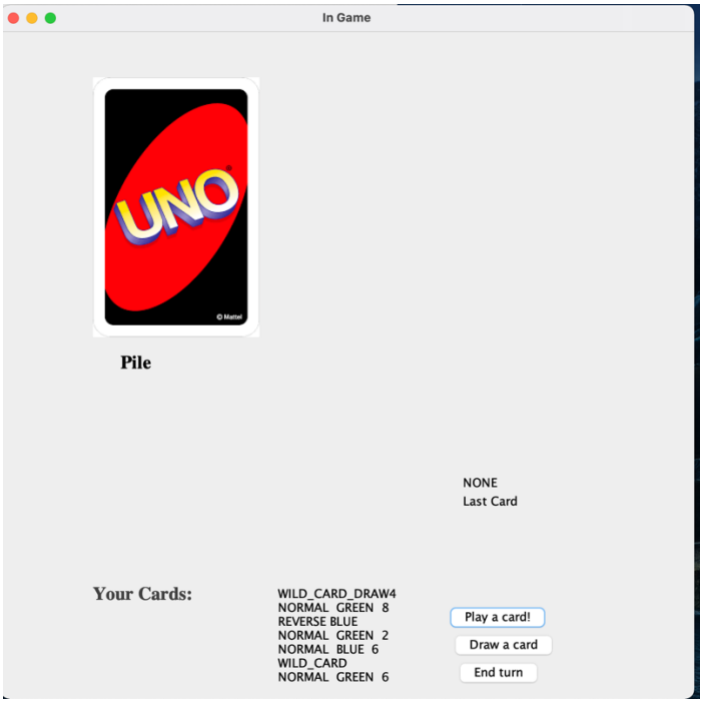




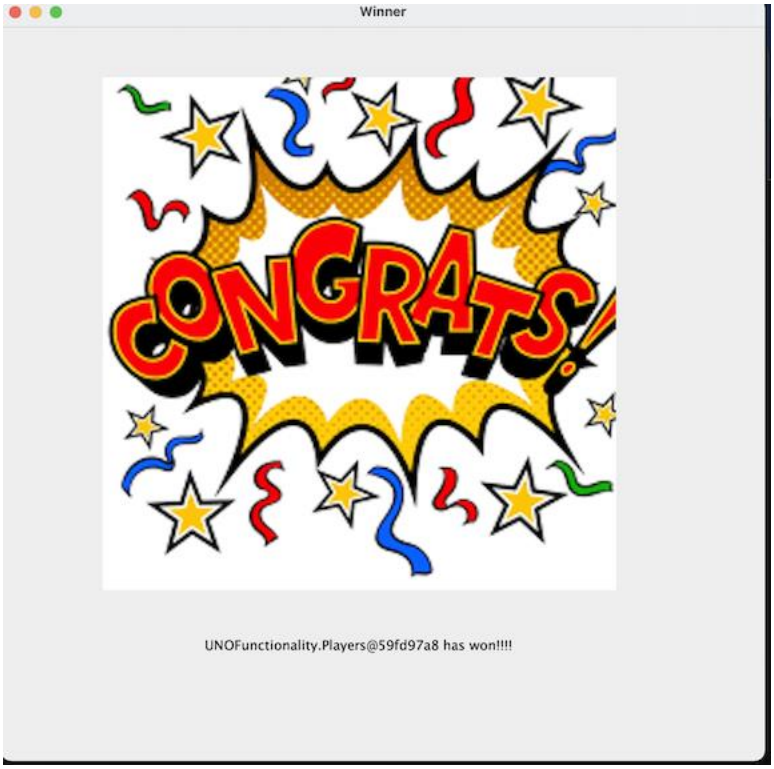
After entering the game, there will be “play a card”, “draw card”, and “end turn” buttons for user to click and their functions are obvious as their names are. There is also a place reserved for the last played card so that the current player can view it as a reference to play his/her card correspondingly.

After clicking the “play card” button, the player has to input a integer, indicating the index of the card he/she wants to play, if not correctly inputted error message will appear, preventing the game from developing, and the user has to input another valid one.


Message
Please enter integers!


In Game
Pile
NONE
Last Card
Your Cards:
WILD_CARD_DRAW4
NORMAL GREEN 8
REVERSE BLUE
NORMAL GREEN 2
NORMAL BLUE 6
WILD_CARD
NORMAL GREEN 6
Play a card!
Draw a card
End turn

Last but not least, the ending scene will pop up when the system detects that one of players has run out of his/her hand, having the name/player id on that scene.



Additionally, since I know that there are other functions I have not implemented completely, and for the sake of showing my complete back-end implementation, I played a little bit by inserting some baseline AIs and strategic AIs in the game and have them play the game automatically using a big game loop. (you can actually play around with it a little bit if you want,

though it will probably will never end since)

```
The dump pile size is: 11
####################
####################
No. of players now currently playing: 2
Now it is UNOFunctionality.Players@1c8efee5 's turn, which is labeled as 0
And his hand size is: 7
Now the remaining No. of cards in the stack is: 60
The last played card's type is: NORMAL, and its color is: RED
The game flow now is: Clockwise
The dump pile size is: 11
####################
####################
No. of players now currently playing: 2
Now it is UNOFunctionality.Players@7e425350 's turn, which is labeled as 1
And his hand size is: 7
Now the remaining No. of cards in the stack is: 60
The last played card's type is: NORMAL, and its color is: RED
The game flow now is: Clockwise
The dump pile size is: 11
####################
####################
No. of players now currently playing: 2
Now it is UNOFunctionality.BaseLineAI@16a701a5 's turn, which is labeled as 2
And his hand size is: 6
Now the remaining No. of cards in the stack is: 60
The last played card's type is: NORMAL, and its color is: RED
The game flow now is: Clockwise
The dump pile size is: 11
####################
####################
No. of players now currently playing: 2
Now it is UNOFunctionality.BaseLineAI@3997aa09 's turn, which is labeled as 3
And his hand size is: 3
Now the remaining No. of cards in the stack is: 60
The last played card's type is: NORMAL, and its color is: GREEN
The game flow now is: Clockwise
The dump pile size is: 12
####################
####################
No. of players now currently playing: 2
Now it is UNOFunctionality.StrategicAI@52050208 's turn, which is labeled as 4
And his hand size is: 7
Now the remaining No. of cards in the stack is: 58
The last played card's type is: NORMAL, and its color is: GREEN
The game flow now is: Clockwise
```