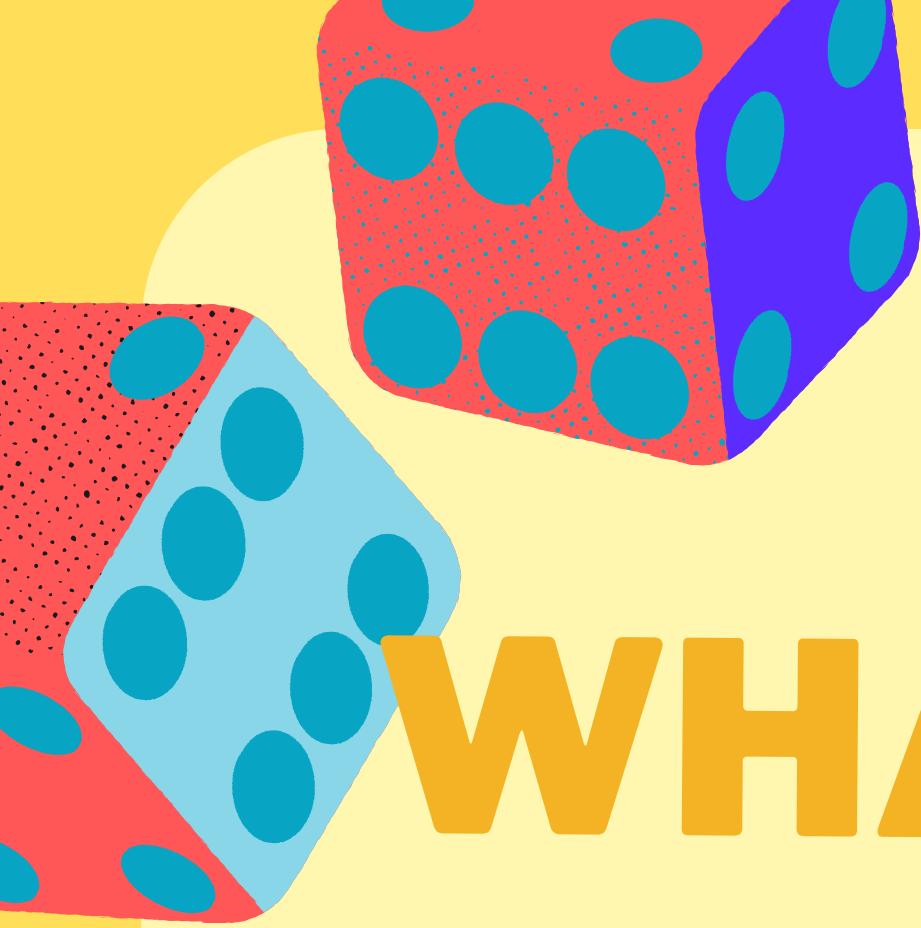


# OBJECT-ORIENTED PROGRAMMING

## SET

Lika M.  
Liazzat S.  
Mariam G.



# WHAT IS A SET GAME?

SET is a fast-paced card game of logic and visual perception.

Players compete to find a "SET" of three cards.

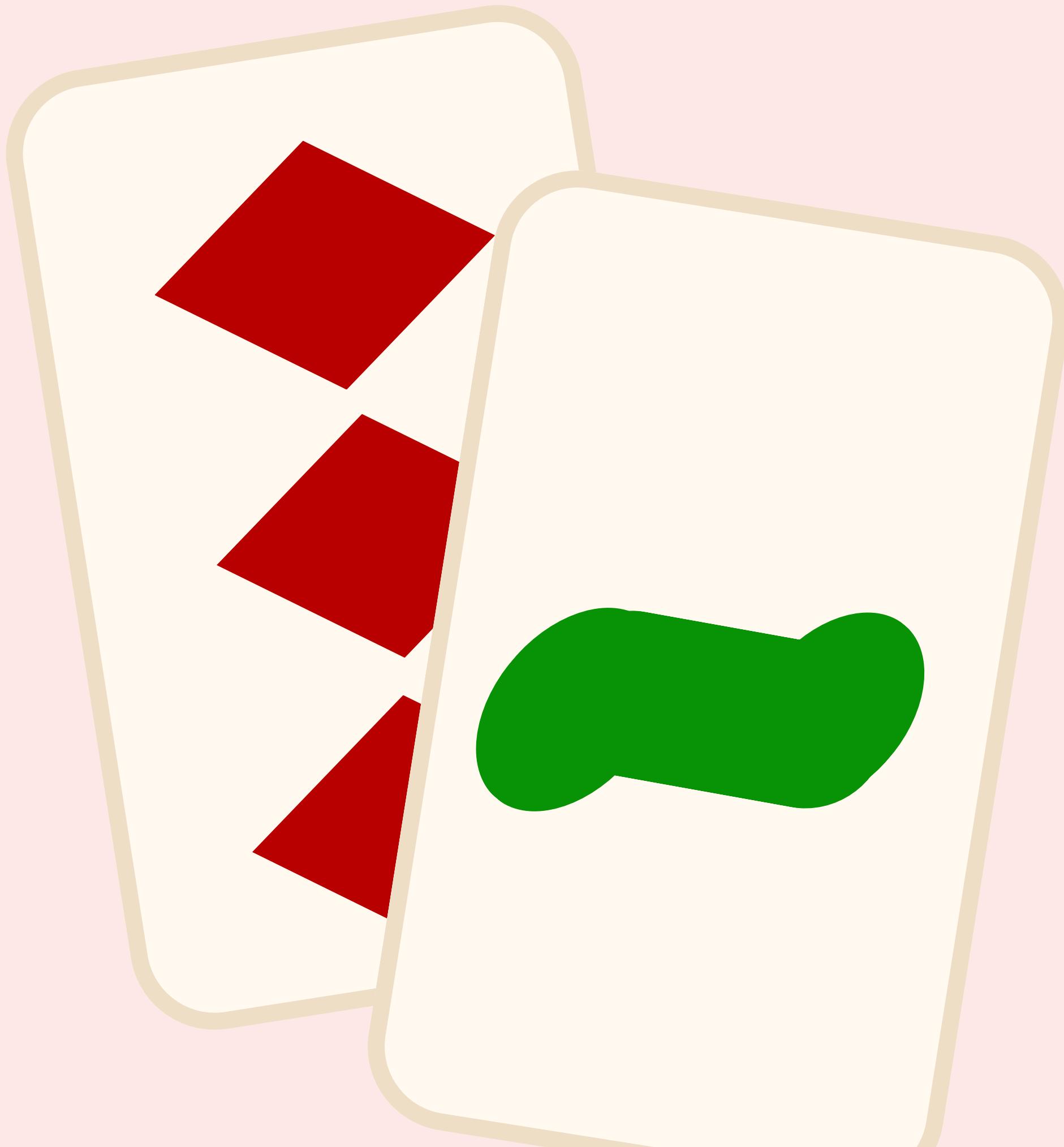
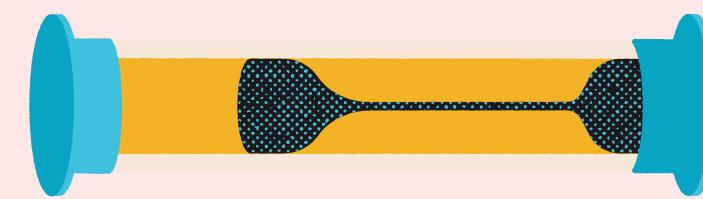
Each card has four visual features, and a SET must meet a specific rule:

For each feature, the cards must be either all the same or all different.

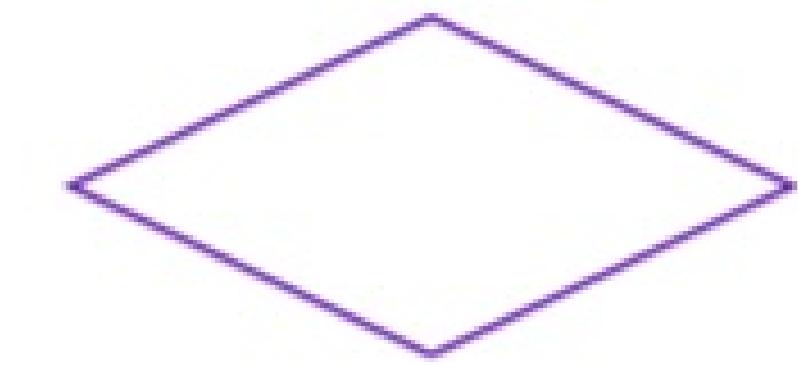
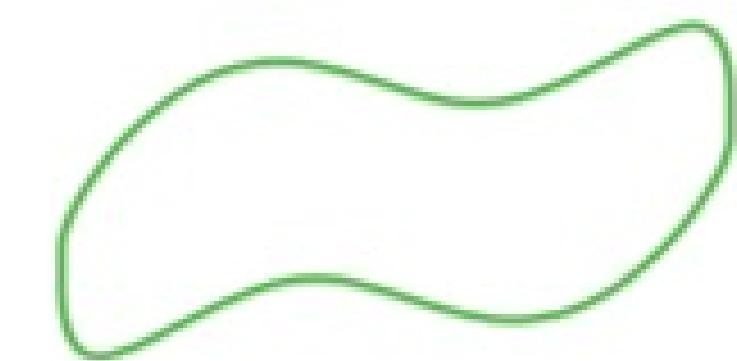


# WHAT'S ON EACH CARD?

Each card has 4 features:



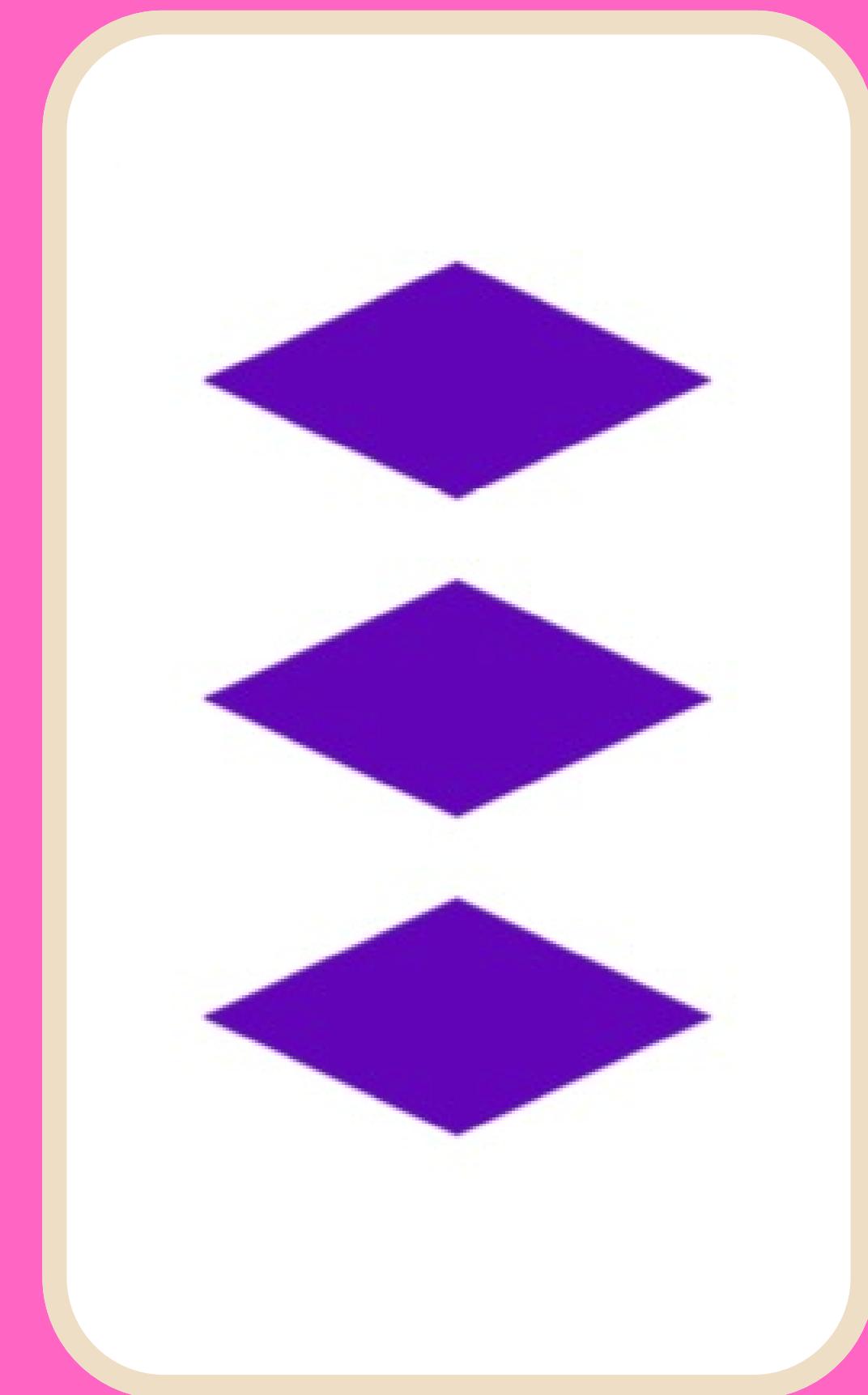
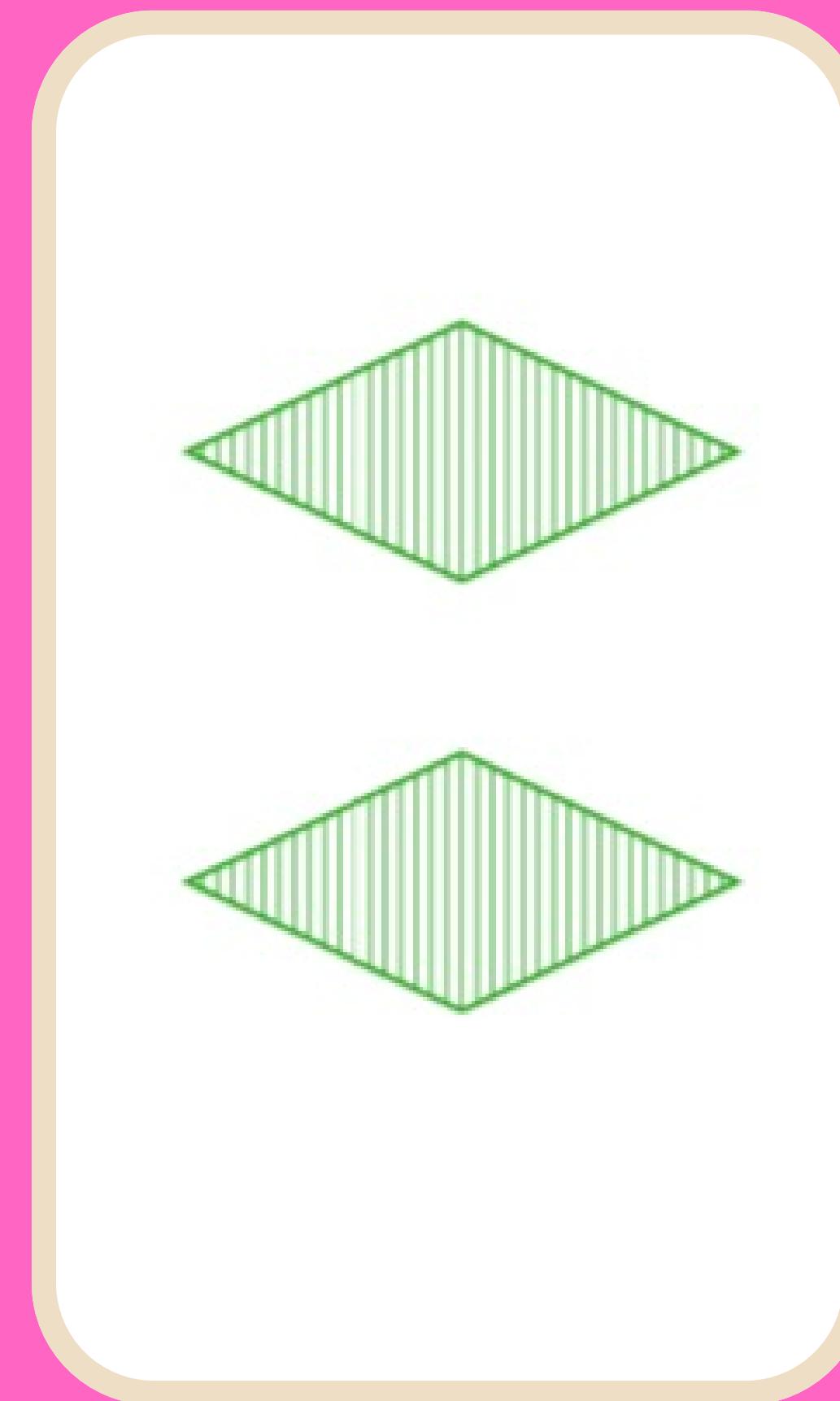
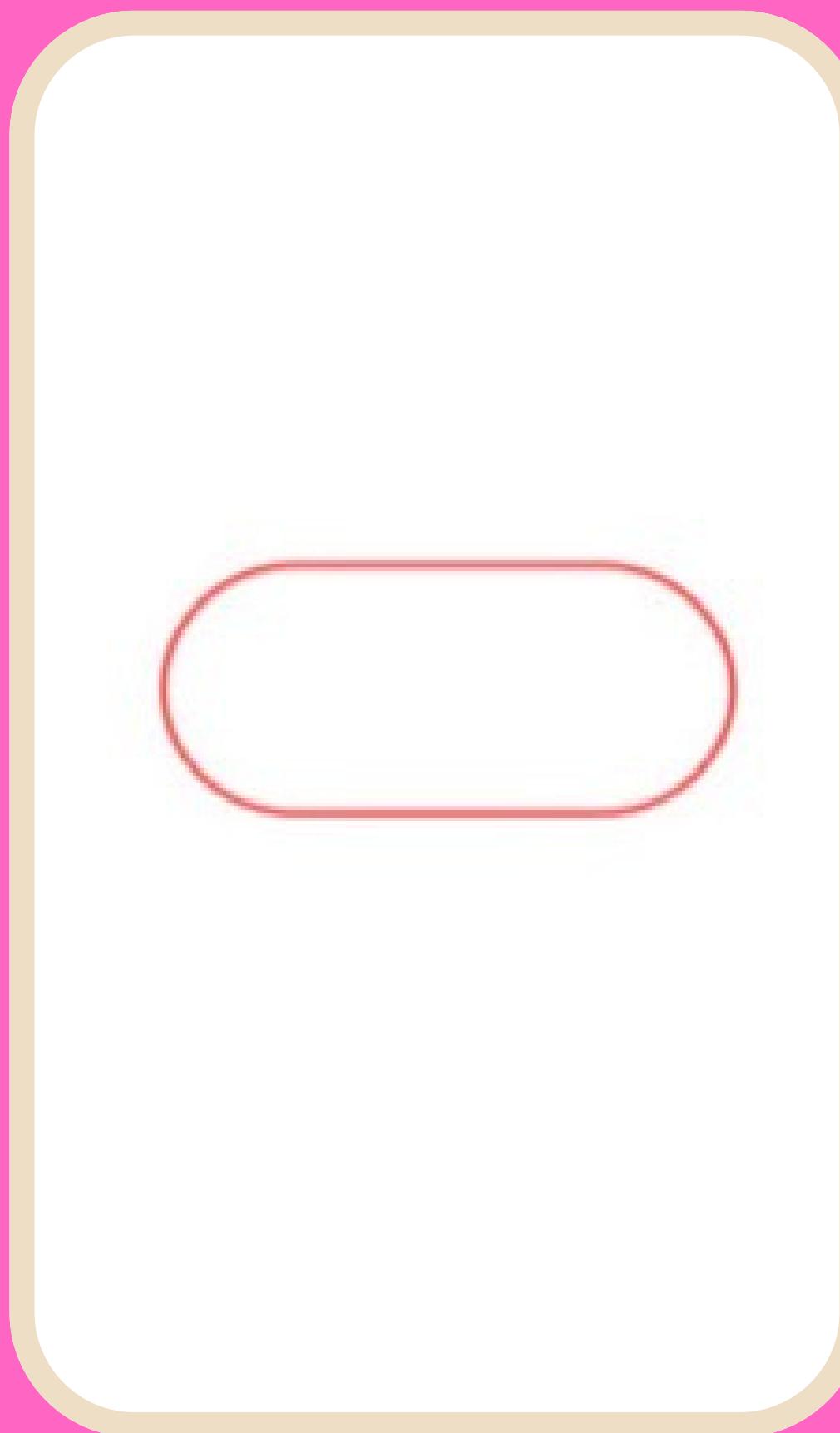
# SHAPE AND COLOR



# NUMBER



# SHADING

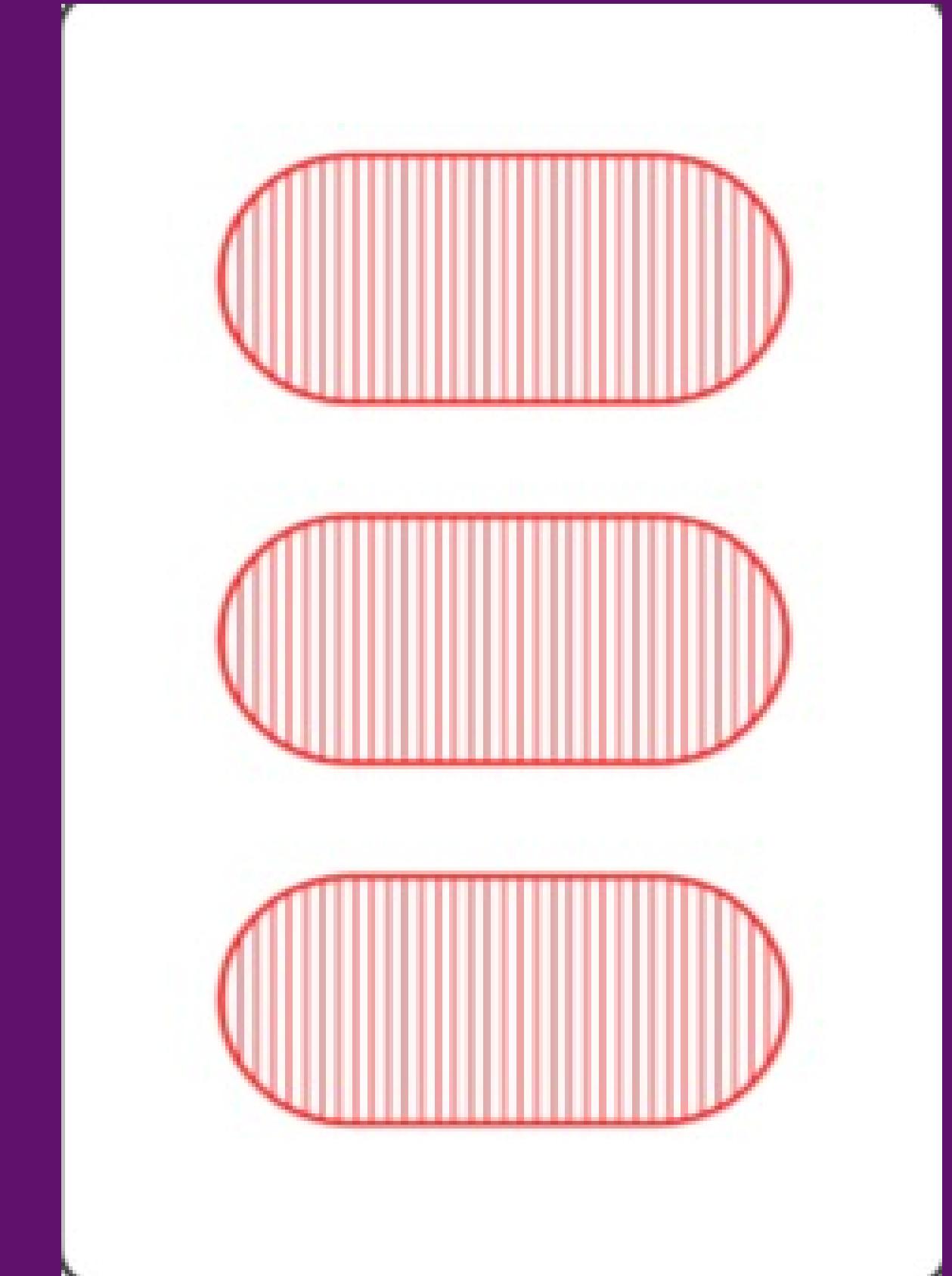
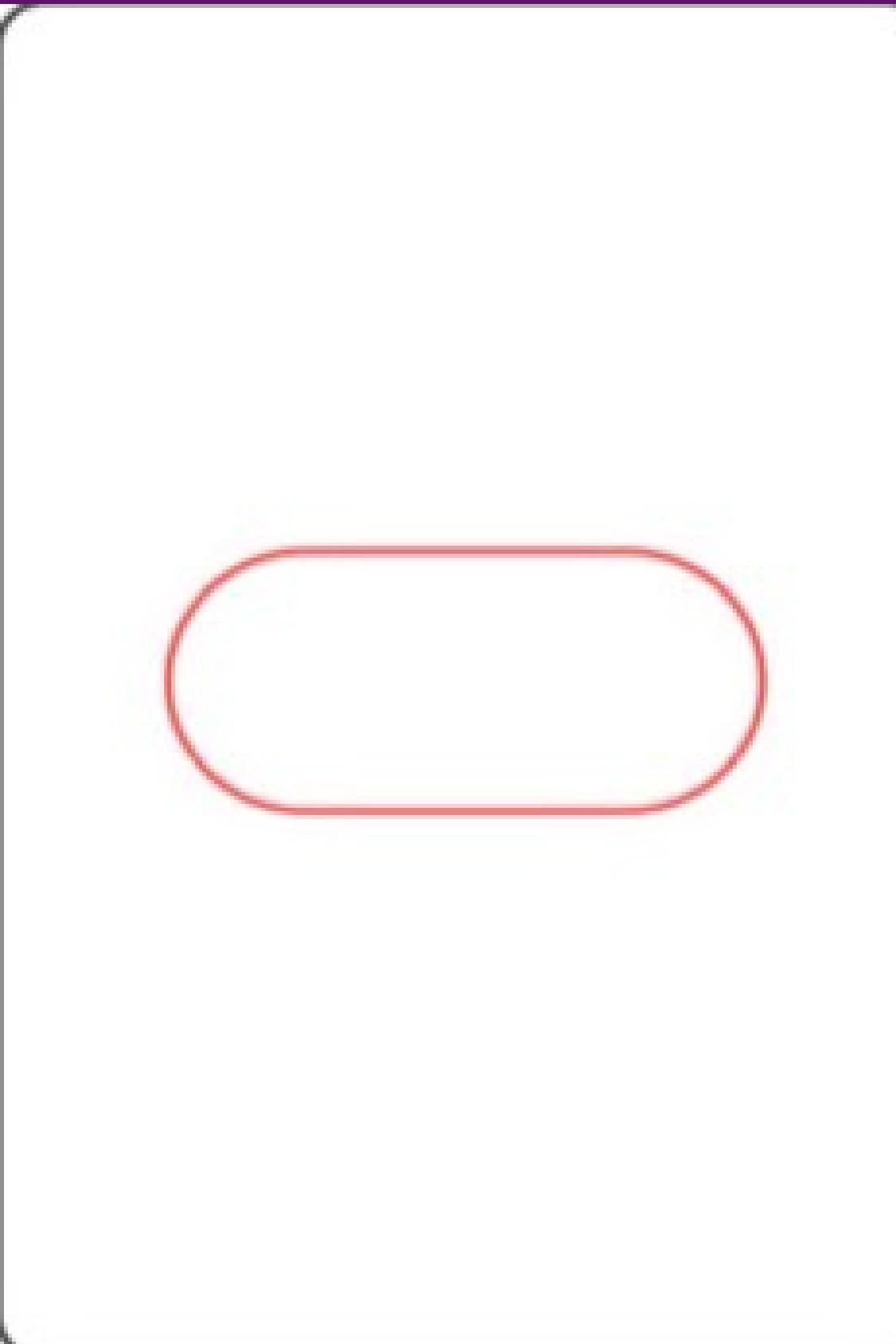


# WHAT IS A SET?

A SET is a group of three cards where for each feature, the cards are either:

- all the same
- all the different

Color: SAME Number: DIFFERENT Filling: DIFFERENT Shape: SAME



THIS IS A SET

# Our Project Design

- One human or one human VS AI
- Graphical user interface
- AI Player class uses background thread and logic to search for sets automatically
- Deck shuffling, board updates, and error handling

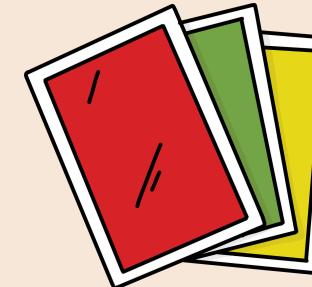
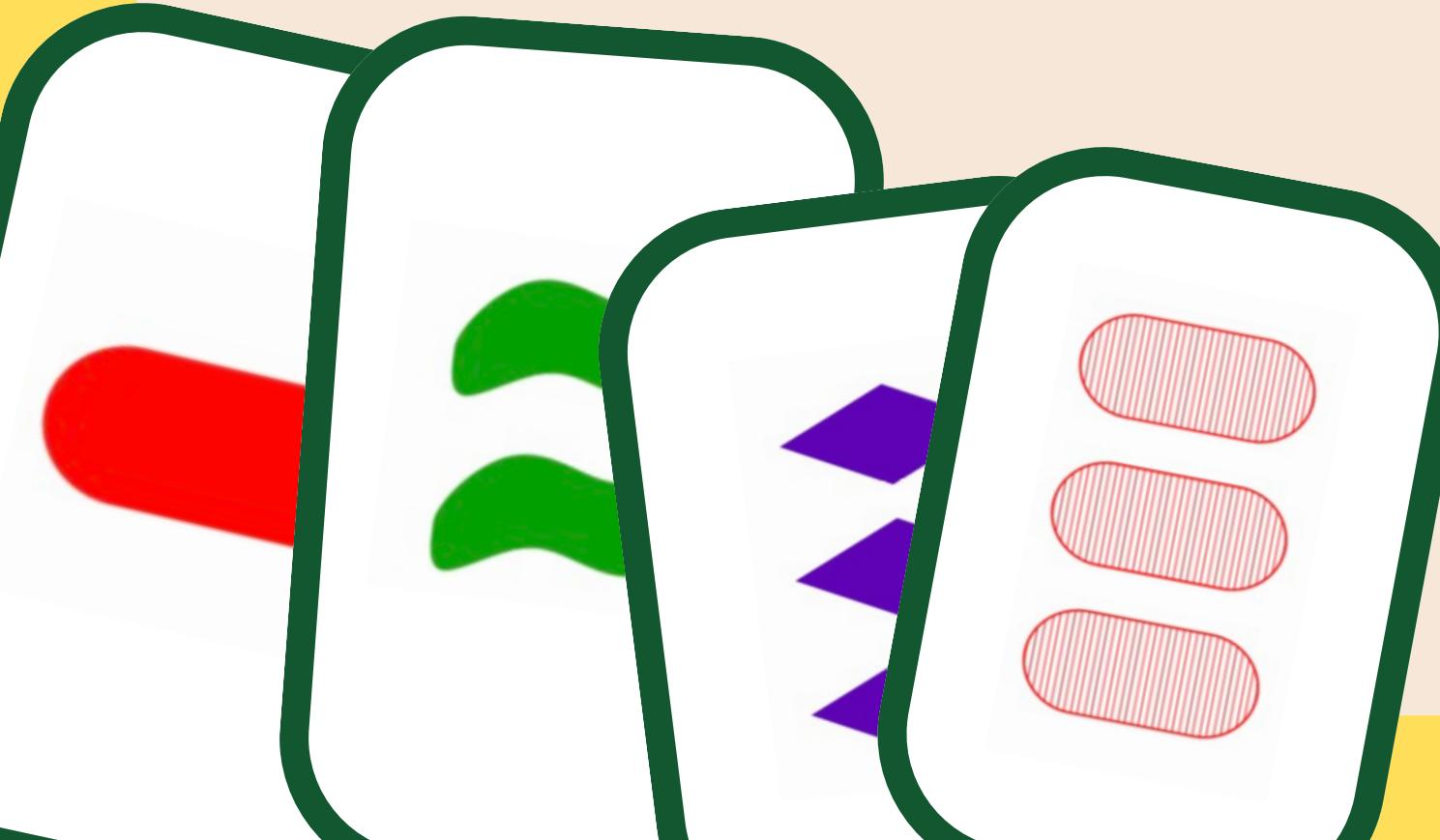
# HOW TO PLAY

- The board starts with 12 cards is randomly drawn from the deck of 81.
- Players try to find SETs by selecting 3 cards.
- If the selected cards do not form a SET, nothing happens.
- If they form a SET, the 3 cards are removed and replaced.
- If no SET is possible, 3 additional cards are added (up to 15 max).
- The game continues until the deck is empty and no more SETs are possible.
- Don't forget to have fun!

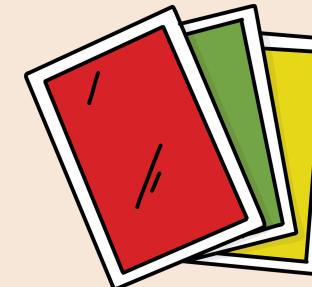


# UML DIAGRAM OVERVIEW

Our code is  
organized into 2  
main packages

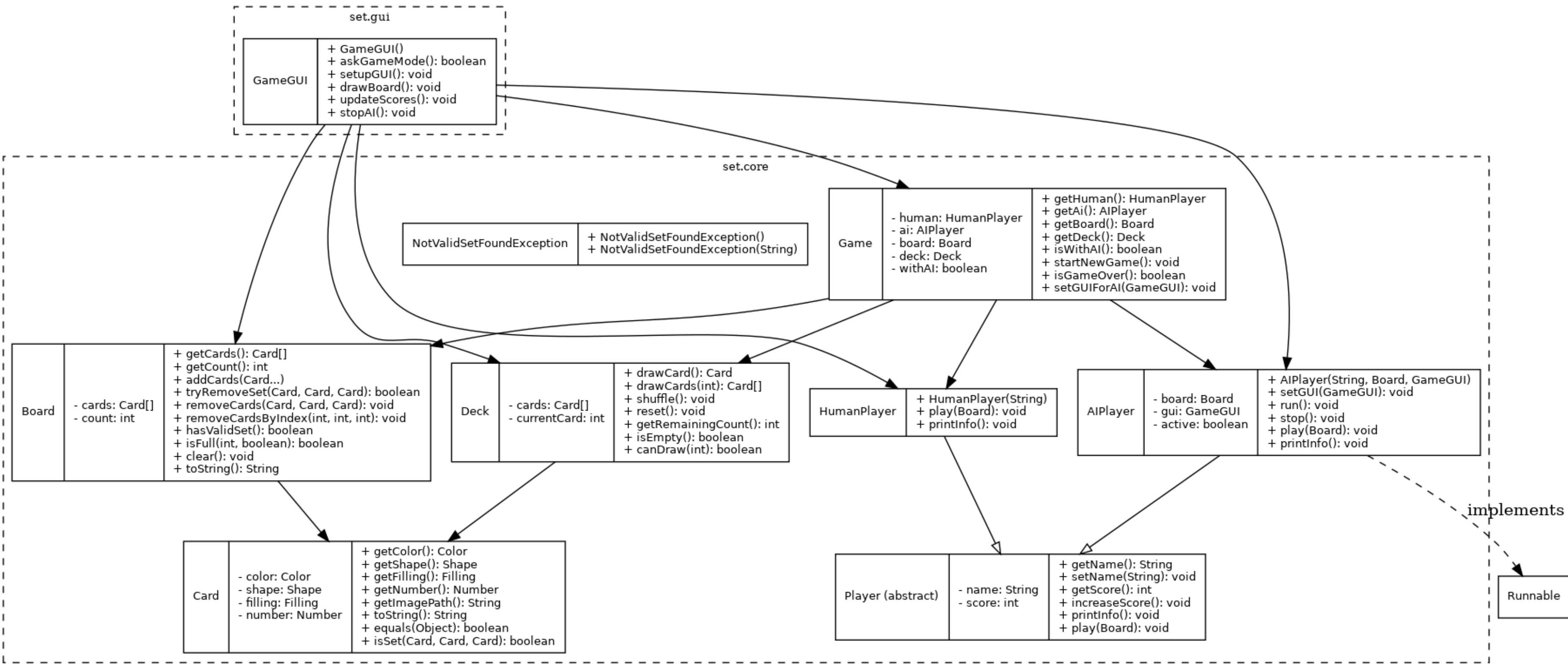


`set.core (logic): Card, Deck, Board, Game,  
Player, HumanPlayer, AIPlayer`

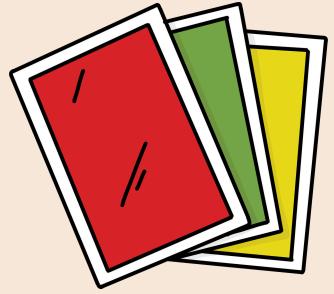


`set.gui (interface): GameGUI`

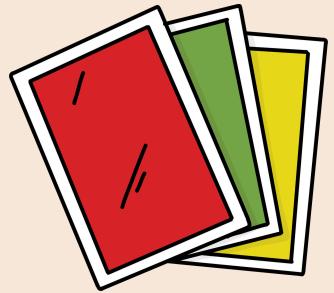
# UML diagram



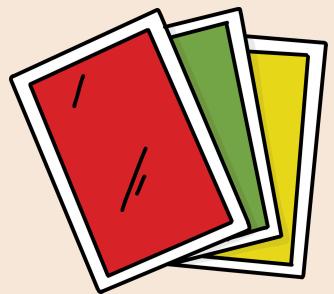
# Key design highlights:



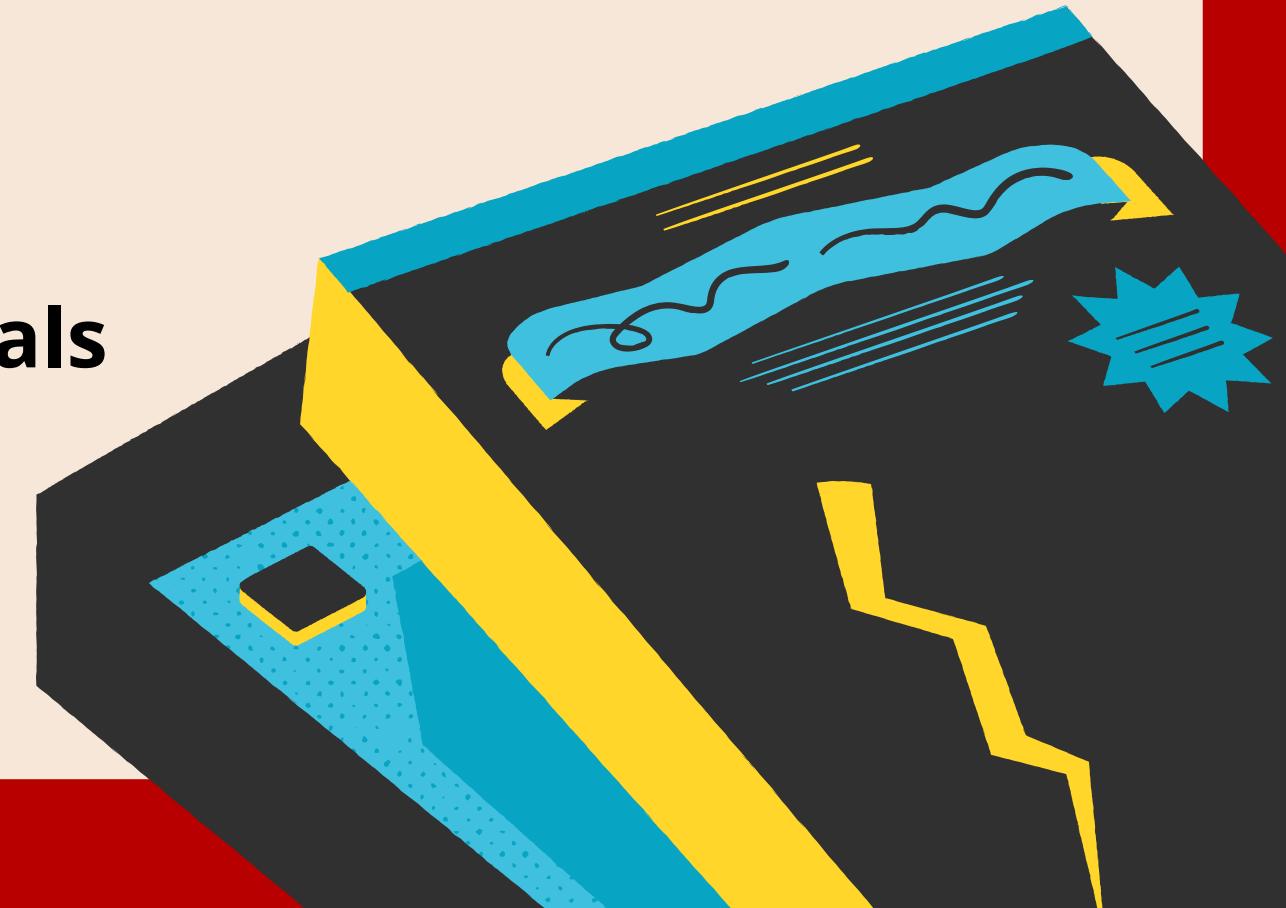
**Abstract class Player, with Human and AI as subclasses**



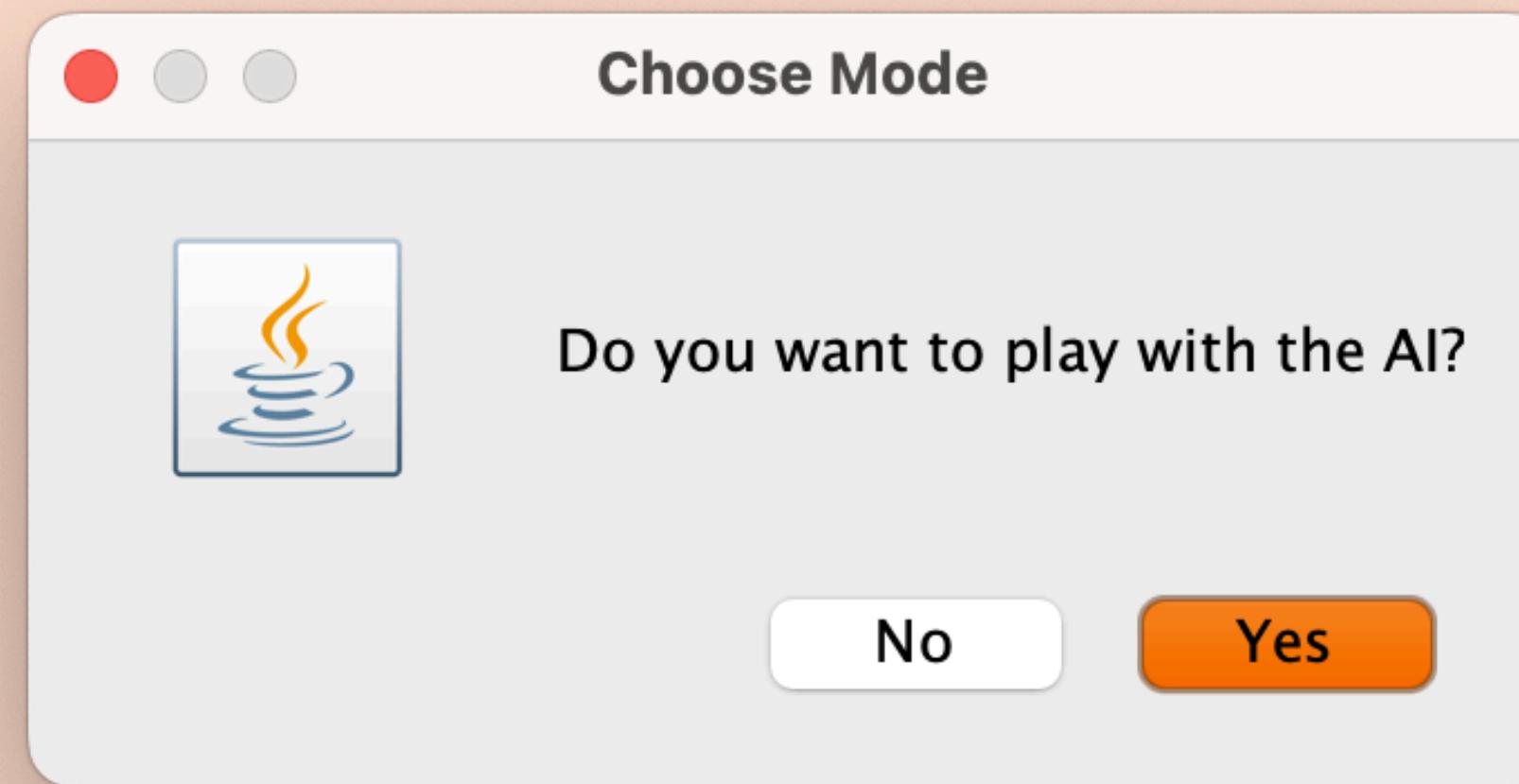
**Runnable interface for AIPlayer to run on a separate thread**



**Game manages logic, GameGUI handles visuals**

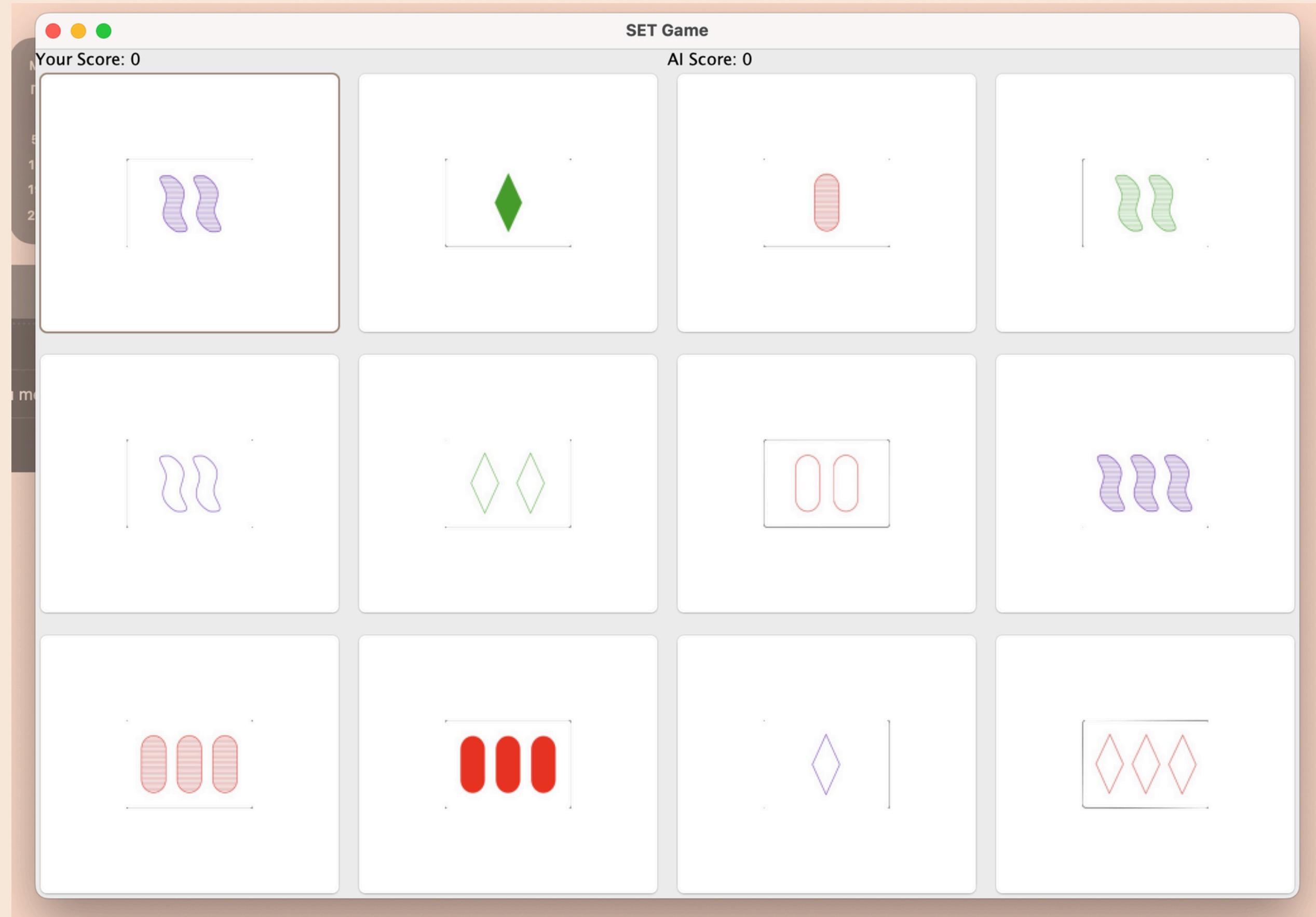


# Set Demo



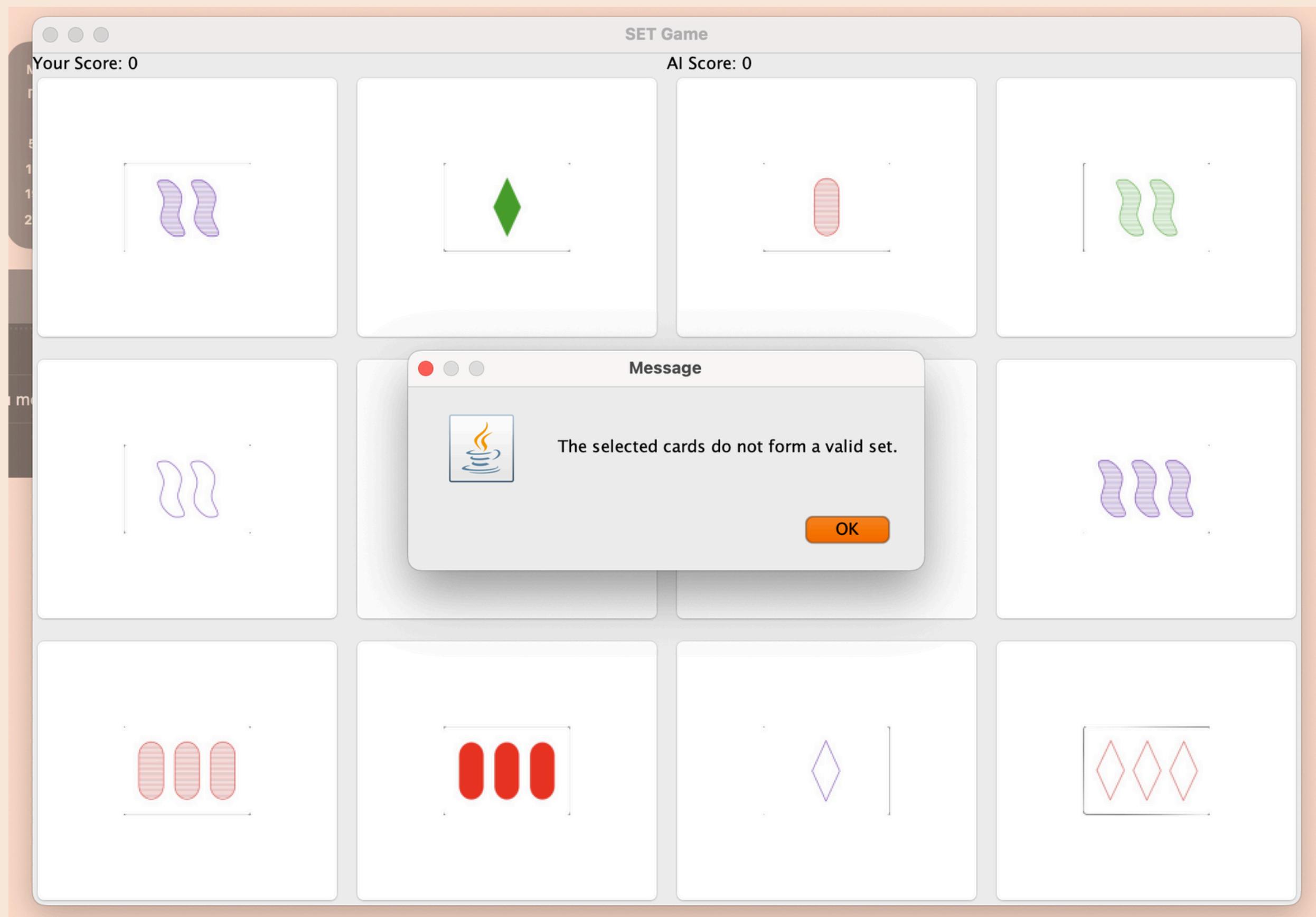
# Set Demo

Game with AI



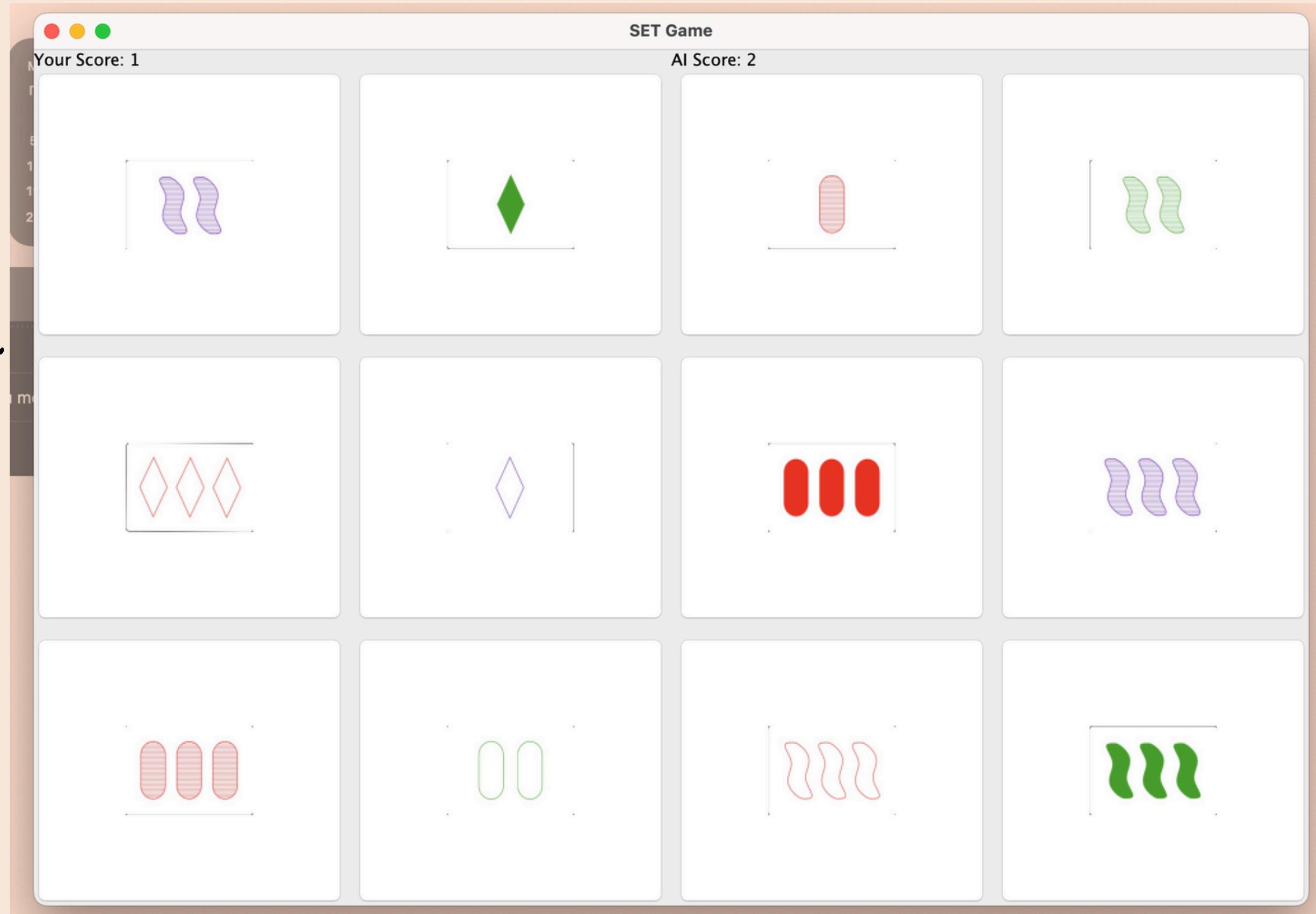
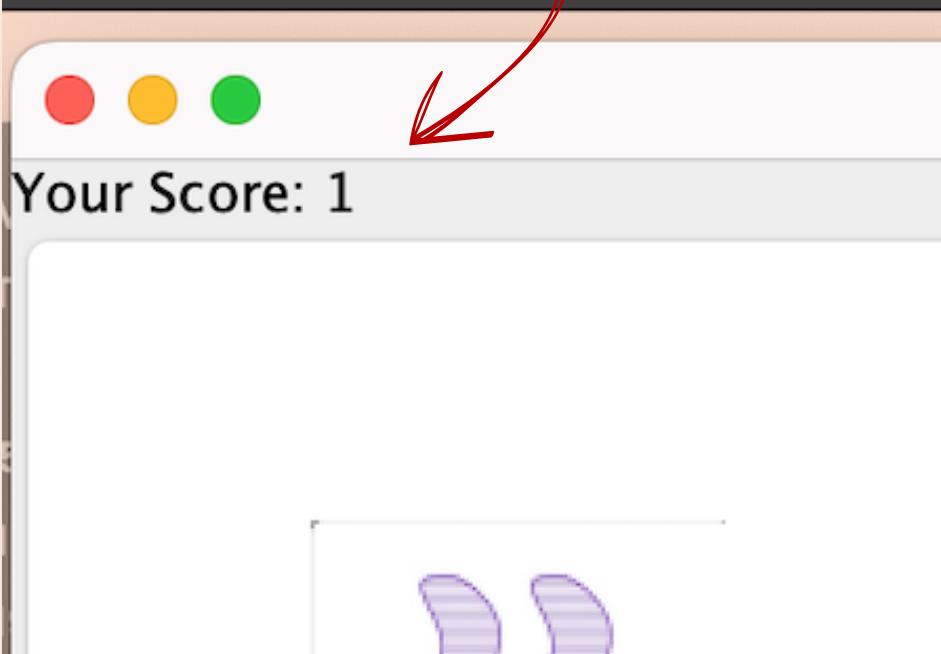
# Set Demo

If the player chose a set incorrectly



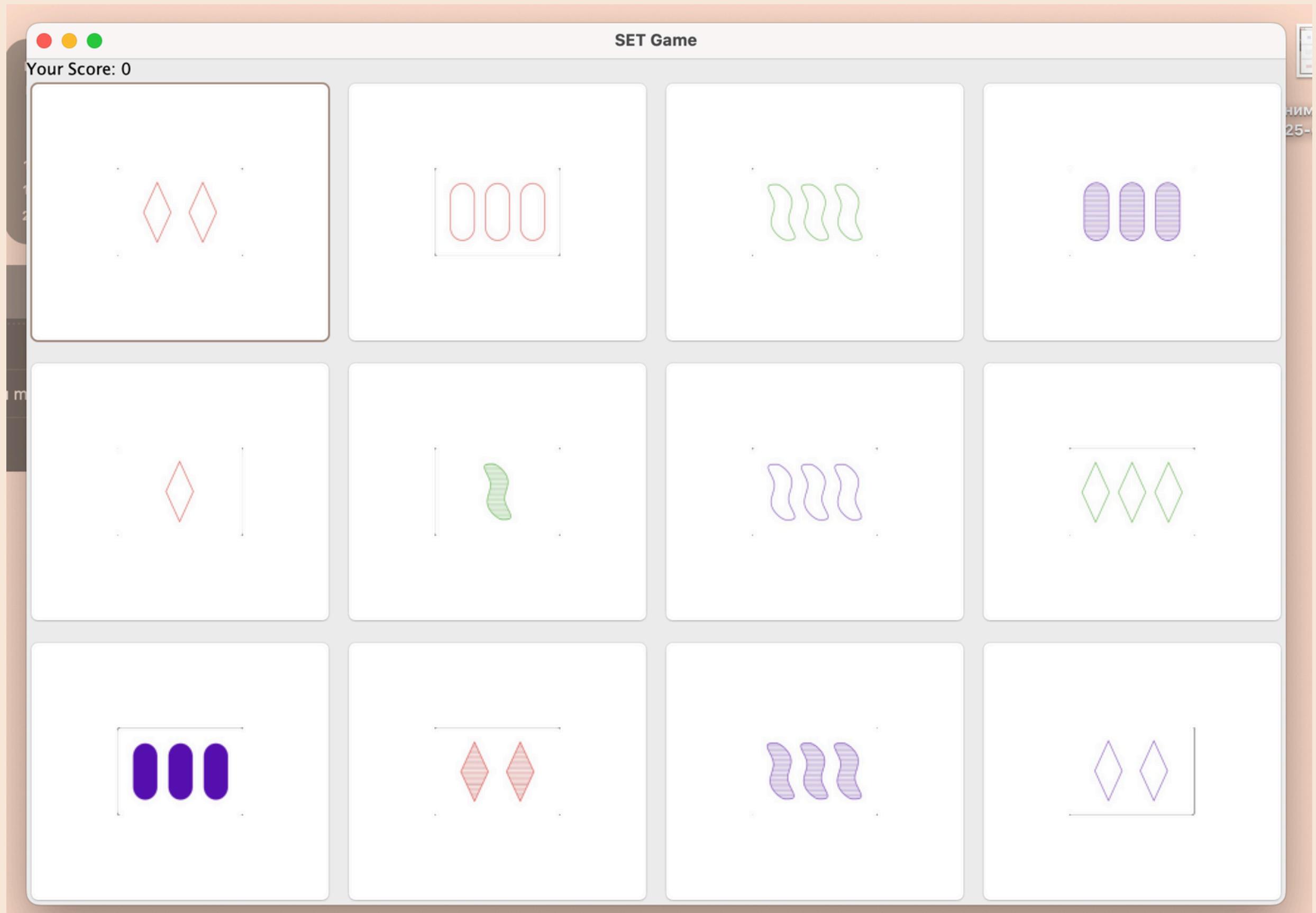
# Set Demo

If the player chose a set correctly

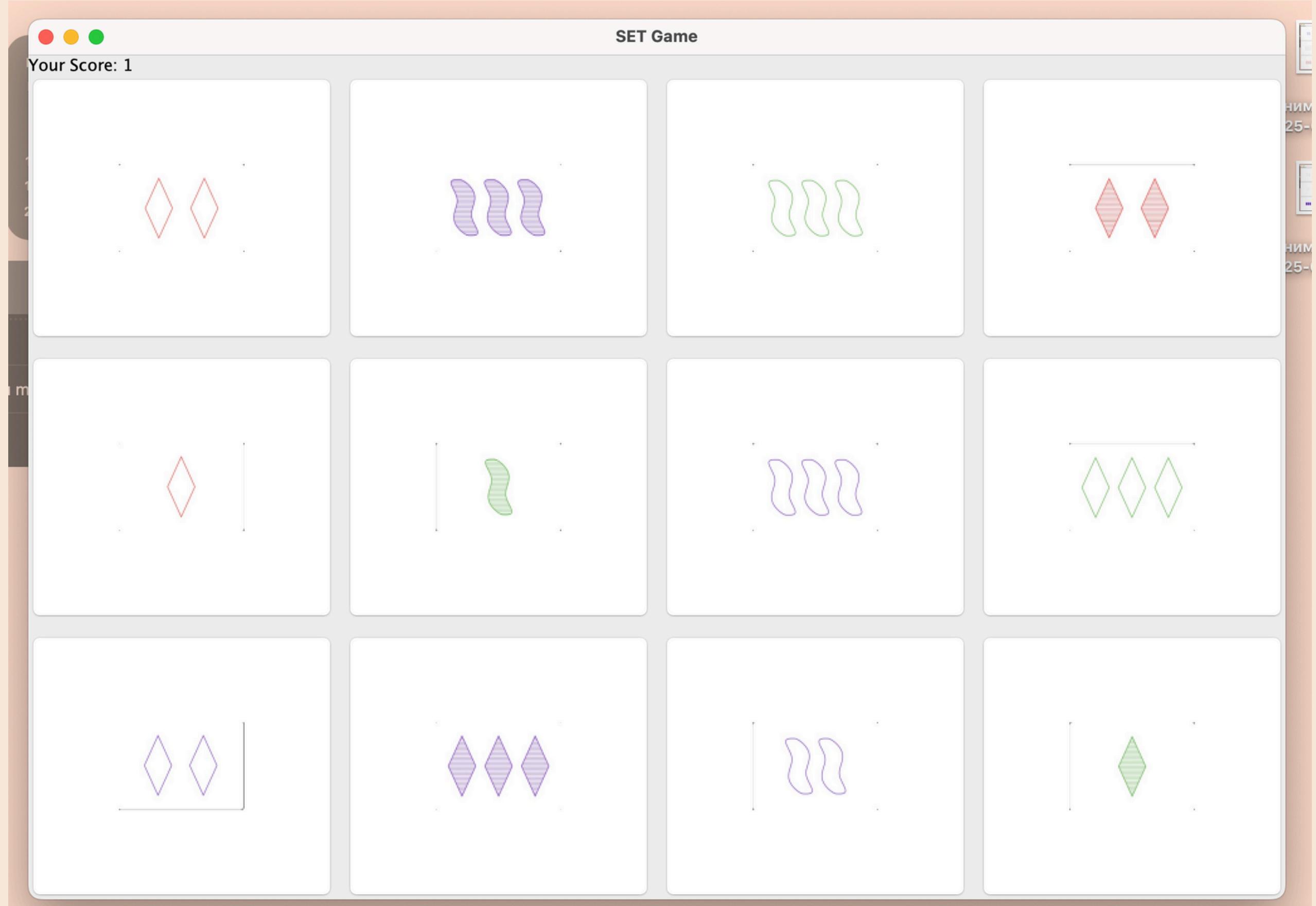


# Set Demo

Game without AI



# Set Demo





**THANK YOU!**