# HI-Low Game Abstraction

* Just so we can keep our ideas in order, please choose a color for your font and put it in the key so we can see whose ideas belong to which person.
* Key

Black = What we discussed as group.

Green = William Cameron

Blue = Ramón Felipe Castano Salgado

Pink = Nikkolet Ashby

Red = Dhener Trinidad

* Player that starts with 300 points

Class Player

Possible attributes of player

Player has points

Points Attributes

Points Behavior

Starts at 300

Increase by 100 or decrease by 75

Possible behaviors

Player will make choice

Choice = GUESS or to END the game.

Guess = Higher or Lower

END = End the game

* Cards 1 – 13

Class Cards

Card name = Number on the card.

Possible attributes:

Suits

(Diamonds, Clubs, Hearts, Spades) Enhancement for cards can work on it later

Jack= 13, Queen = 14 , King=15, Ace = 1 Enhancement for cards can work on it later.

Possible Behaviors

Shuffle cards

Randomize cards

Select Base card = Remove 1 card from deck of cards.

Draw Base card = First card drawn and player will make their guess based on that card.

Shuffle remaining cards

Randomize remaining cards

Select Guess card

Draw Guess card = The second card that will compared to the first card.

Discard card from deck or return card to deck

Discard meaning the “base card” and “guess card” are no longer playable until the end of the game. (This is more of an enhancement on the game)

We can make the game so the cards that are selected are no longer part of the deck until the new game.

* 3 Displays. One for the first card (player will see first) and the second card (will be the next card or second card after guess)

Display Card 1 (Base card) = The first card that will be the base the player uses to determine a guess.

Display Card 2 (Guess card) = This will display to user the random card that is randomly pulled.

Display results (points received/lost and point total)

* 2 Player input. Player will guess. Player will decide to continue or quit.

Possible user input

Guess = The input the user will say Higher or Lower

Continue or quit = The input the user will say Yes to continue playing or No to end the game.

* Results

Player won or lost the game.

Correct guess will result in 100 points received. (Behaviors

Incorrect guess will result in 75 points decreased

correctGuess = ‘ ’

playerGuess = input(‘Higher or lower?(h/l): ’)

if playerGuess === correctGuess:

points += 100

elif playerGuess != correctGuess:

points += 75

Possible Behavior

Victory condition game 1 = 700 points or points higher than 0 (when the cards are down to 1, subject to change)

if points >= 700:

messagebox.showinfo("Congratulations!, “You guessed correctly! You win!")

disableButtons()

Victory condition game 2 = when the points reach 700

Game over

When points <= 0 or points equal 0 when 1 card is left.

Or, When points reach less than <=0 (subject to change)

* ~~Game Over. Part of results~~

~~Conditions are if points reach 0 or if player quits.~~

* ~~Victory Condition part of results~~

~~If points reach 700 the player will win. (Subject to change)~~

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| --- | --- | --- | --- | --- |
| |  | | --- | | **Game** | | is\_playing: bool  total\_score: int (300) | | start\_game():None  get\_inputs():None  do\_updates():None  do\_outputs():None | | |
| |  | | --- | | **Card** | | card\_number: int | | card\_select():int  discard\_card():None | | |  | | --- | | **Player** | | points: int  card\_guess: str | |  | |
|  |  |

The methods in Game class I think could be similar to the methods in the Director class from the game of dices.

I’m not sure how to add some methods in Player class

Methods in the Card class could perform the actions that you mention at the beginning of this document

* How did you apply abstraction in your program’s design?

We used abstraction by breaking down the game into 3 main class which are “Game”, “Player” and “Cards”. From there “Game” will function as the director of the flow which will receive the “Player” class. The “Player“ class will then receive the “Cards” class and then “Game” class will have the main game loop.

* Last line of document.

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