# 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 but will be considered as enhancement)

if points >= 700:

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

disableButtons()

Victory condition game 2 = when the points reach 700 (game enhancement )

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, Dealer** | | 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

* Game Structure

Dealer (directing the game where the main game loop will take place)

Start Game (main game loop)

Guess (Method)

Draw Cards

Random cards

User Input

Updates(method)

Check results

Outputs or displays (method)

Display results

Play Again?

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

We used abstraction by breaking down the game in to parts and having a director of the flow. We have did this by determining that the “Dealer” will be the one directing the game and housing the main game loop, produce and produce the starting points. The game loop has 3 main parts which has guessing, updating scores and displaying scores before asking if the user wants to continue. During the guessing phase, there are 2 cards that are produced at random and the player will guess higher or lower and that ends that phase. The updating phase will check and update the results. The displaying phase will show the results and after the player will be asked if they want to continue. The game has multiple parts that are broken down to do a simple task and then return it to the main game loop and this is an example of abstraction.

The document above was collaborative brainstorm for ideas on the game between all members which are mainly outlined in black. Main contributions Dhener Trinidad and Ramon Salgado had more ideas for the structure of the game. Nikkolet Ashby contributed with enhancements and logic. William Cameron contributed with gameplay enhancements, meeting coordination and team coordination.

* Last line of document.

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