

CIS 500 – Foundations of Software Practice Winter 2023, Project #3

Simple Card Game with **Card** and **Deck** classes Due Date: Thursday, March 16th, 2023

Objectives

- Classes and Objects
- Exceptions
- User interface for playing “**The HighLow**” card game

Assignment

This project implements a simple card game called **HighLow**. This game is described in file `highlow.py`. Implementation of this game involves writing two classes – **Card** and **Deck**. The **Card** class models a card in a deck of playing cards and the **Deck** class models a standard deck of 52 cards.

Project Files

You are provided with four files for this project. Keep these files in a folder designated for this project. You may want to name this folder `Project3`.

- **card.py**: Replace the “pass” statement in methods of the **Card** class with your implementation.
- **deck.py**: Replace the “pass” statement in methods of the **Deck** class with your implementation.
- **highlow.py**: Functions that implement a command line user interface to play the game.
- **project3_tests.py**: This file contains unit tests for testing your implementation of **Card** and **Deck** classes. **DO NOT MODIFY THIS FILE.**

Playing the HighLow game from Command Line

Issue the following command at command prompt from inside the project directory:

```
$ python highlow.py
```

The following screenshot shows a sample execution of the program to demonstrate how this game is played:

```
[~/GV/Courses/CIS500/Winter2023/Projects/Project3/instructor]$ python highlow.py
HighLow is a simple card game.
During each turn of this game, a card is drawn from a shuffled deck of cards.
You have to predict whether the next card will be higher or lower.
Your score in the game is the number of correct predictions you make before you guess wrong.
Making a wrong prediction ends the game.

The first card drawn from the deck is Queen of Hearts
Will the next card be higher (H/h) or Lower (L/l)? l
The next card is Ace of Spades
Your prediction was correct.
The current card is Ace of Spades
Will the next card be higher (H/h) or Lower (L/l)? h
The next card is King of Hearts
Your prediction was correct.
The current card is King of Hearts
Will the next card be higher (H/h) or Lower (L/l)? l
The next card is 10 of Hearts
Your prediction was correct.
The current card is 10 of Hearts
Will the next card be higher (H/h) or Lower (L/l)? l
The next card is 4 of Spades
Your prediction was correct.
The current card is 4 of Spades
Will the next card be higher (H/h) or Lower (L/l)? h
The next card is 4 of Hearts
The rank value is same as the previous card. Sorry, you lose on ties.
The game is over.
You made 4 correct predictions.
[~/GV/Courses/CIS500/Winter2023/Projects/Project3/instructor]$ █
```

Running Unit Tests

Issue the following command at command prompt from inside the project directory:

```
$ python project3_tests.py
```

Project Deliverables (VERY IMPORTANT)

1. Upload the following three files on Blackboard by end of day (11:59PM) on due date.
 - card.py
 - deck.py
 - highlow.py
2. Evaluation of your project will be based on the following two items (see grading rubric in Project3_Rubric.pdf file):
 - Implementation of main() to provide command line user interface to play the game.
 - Number of unit tests from project3_tests.py file that pass.
3. The submission time on Blackboard will be used as the official submission date/time.
4. **Late penalty (10% per day up to three days late max) applies after Thursday, March 16th.**