One Card WAR - Prog 1
CECS 325 – Spring 2026
Due: See Canvas for Due Date

This assignment will use a Card class to build a Deck class. Then you will use the Deck class to play a card game called **One Card WAR**.
This is a simple game for 2 players. One card is dealt to each player, face up. The highest value card wins. If the cards are the same, then it's a tie. Announce the winner – Game over. You will allow the users to play all cards in the deck – 26 games.

You will have 2 classes:

1) The Deck class which will create the deck of 52 cards
2) The Card class which creates cards

The main logic of the game will be in the main program. You will use the Card class and the Deck class to play the game. Also you must use an array to store the cards in the deck – you are not allowed to use a vector.

Here are the class header information for each class. Use these classes and only these functions.

```
class Deck
      Deck( )                 // constructor which creates a deck of 52 cards
      Card deal( )            // deal a card
      void show( )            // show all the cards in the deck
      void shuffle( )         // shuffle the cards in the deck

class Card
      Card( )                 // default card needed for array
      Card(char , char )      // constructor to create a card, setting the suit and rank
      void show( )            // show the card example: AC, 10S, KD
      int compare(Card)       // return 1 for win, 0 for tie, -1 for lose
```

When you run your program, the following will happen in this order:

1) A new deck will be created.
2) The program will ask for the names of the 2 players.
3) The unshuffled deck will be displayed on the screen using the Deck::show() function.
4) The deck will be shuffled.
5) The shuffled deck will display on the screen.
6) 26 games will be played, announcing the winner of each game. Ties are possible as well.
7) After all 26 games are played the program will print the statistics.

Things to consider:

- How are you going to shuffle? You must build the shuffle function yourself – you cannot use std::shuffle or std::random_shuffle.
- You MUST use an array to store cards in your deck.
- Use this command to compile your program:
  `g++ war.cpp card.cpp deck.cpp -o war`

What to submit:

Submit 5 source files: war.cpp, deck.h, deck.cpp, card.h, card.cpp

Submit 2 screenshots:

1) The first part of the program just before the 2 names are accepted. This will show the unshuffled and the shuffled deck as well as the 2 names
2) The final screen showing the statistics.

Here is a sample of how the game will play out:

First Screenshot

```
Enter the name of the first player: Aquaman
Enter the name of the second player: Batman

 Original Deck
AC,2C,3C,4C,5C,6C,7C,8C,9C,10C,JC,QC,KC
AS,2S,3S,4S,5S,6S,7S,8S,9S,10S,JS,QS,KS
AD,2D,3D,4D,5D,6D,7D,8D,9D,10D,JD,QD,KD
AH,2H,3H,4H,5H,6H,7H,8H,9H,10H,JH,QH,KH

 Shuffled Deck
9C,8H,6H,KC,8C,JH,2S,6D,9H,10D,7D,3D,JS
5C,6C,5S,QS,5D,9S,AD,AS,QC,4H,JC,2C,6S
2H,JD,10H,9D,QH,QD,2D,KS,7C,4C,KD,AH,KH
4S,10S,8D,7S,3C,3H,3S,8S,AC,7H,5H,4D,10C

Game 1
--------
        Aquaman=>9C
        Batman=>8H
Aquaman=> Winner

Game 2
--------
        Aquaman=>6H
        Batman=>KC
Batman=> Winner

Game 3
--------
        Aquaman=>8C
        Batman=>JH
Batman=> Winner

Game 4
--------
        Aquaman=>2S
        Batman=>6D
Batman=> Winner

Game 5
--------
        Aquaman=>9H
        Batman=>10D
Batman=> Winner

Game 6
--------
        Aquaman=>7D
        Batman=>3D
Aquaman=> Winner
```

```
Game 7
--------
        Aquaman=>JS
        Batman=>5C
Aquaman=> Winner

Game 8
--------
        Aquaman=>6C
        Batman=>5S
Aquaman=> Winner

Game 9
--------
        Aquaman=>QS
        Batman=>5D
Aquaman=> Winner

Game 10
--------
        Aquaman=>9S
        Batman=>AD
Aquaman=> Winner

Game 11
--------
        Aquaman=>AS
        Batman=>QC
Batman=> Winner

Game 12
--------
        Aquaman=>4H
        Batman=>JC
Batman=> Winner

Game 13
--------
        Aquaman=>2C
        Batman=>6S
Batman=> Winner

Game 14
--------
        Aquaman=>2H
        Batman=>JD
Batman=> Winner

Game 15
--------
        Aquaman=>10H
```

```
        Batman=>9D
Aquaman=> Winner

Game 16
--------
        Aquaman=>QH
        Batman=>QD
Tie game

Game 17
--------
        Aquaman=>2D
        Batman=>KS
Batman=> Winner

Game 18
--------
        Aquaman=>7C
        Batman=>4C
Aquaman=> Winner

Game 19
--------
        Aquaman=>KD
        Batman=>AH
Aquaman=> Winner

Game 20
--------
        Aquaman=>KH
        Batman=>4S
Aquaman=> Winner

Game 21
--------
        Aquaman=>10S
        Batman=>8D
Aquaman=> Winner

Game 22
--------
        Aquaman=>7S
        Batman=>3C
Aquaman=> Winner

Game 23
--------
        Aquaman=>3H
        Batman=>3S
Tie game

Game 24
```

```
--------
        Aquaman=>8S
        Batman=>AC
Aquaman=> Winner
```

```
Game 25
--------
        Aquaman=>7H
        Batman=>5H
Aquaman=> Winner

Game 26
--------
        Aquaman=>4D
        Batman=>10C
Batman=> Winner

------Final Stats-------
       Aquaman vs. Batman
Wins   14          10
Losses 10          14
Ties   2           2
```

Second Screenshot

Objectives:

1) Understand how to create classes
2) Learn how to use arrays in C++
3) Learn how to use header files and .cpp file as separate files.
4) Learn about preprocessor directives, #include libraries, and “using namespace std”
5) Learn how to protect header files by using #ifndef, #define, #endif
6) Introduce the rand() function for shuffling cards
7) Get a random number within a range of numbers