Lab3 Poker game

For this problem, you need to randomly generate one hand of cards (five cars) to two players. Sort the cards by number (regardless of suit), evaluate type of cards (Straight Flush , Four of a Kind , Full house …) , compare and output the winner.

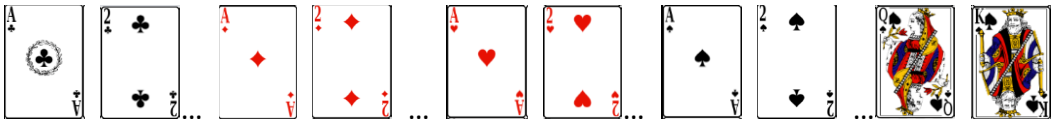
You must use template to finish this assignment.

Q1: Generate cards

For TA's convenience you need to give each card a number.

Use following format:

0 for Club A , 1 for Club 2 … 13 for Diamond A , 14 for Diamond 2 … 26 for Heart A , 27 for Heart 2 … 39 for Spade A , 40 for Spade 2 … 51 for Spade 13



0 1 … 13 14 … 26 27 … 39 40 … 50 51

Q1.1

Implement two mode, normal mode and cheating mode. Input "S" to enter normal mode and input "C" to enter cheating mode.

Q1.2

In the normal mode, you should randomly generate one hand of cards (five cards) to each player and make sure that two players do not get the same card.

(hint: Use usedCards array to keep track of which card have been used)

For example: If player1 get the Diamond A, then player2 should not have Diamond A.

Q1.3

In cheating mode, your program should ask user to input five cards for each player.

```
Enter S to start the game, C to enter cheating mode, Q to Exit the process
c
Input player1's cards:2 3 4 5 6
Input player2's cards:31 32 33 34 35
```

Q1.4

After randomly generate cards or input cards, store those value into vector of class.

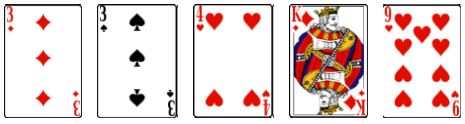
Q2: Sort cards

Q2.1

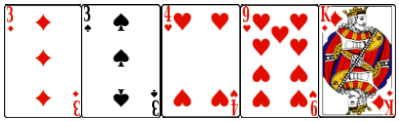
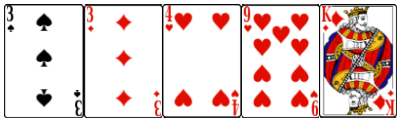
Sort the cards by number (regardless of suit).

For example:

If player get the number of cards are:

15 , 41 , 29 , 25 , 34 

You can sort them to

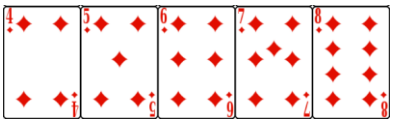
 or 

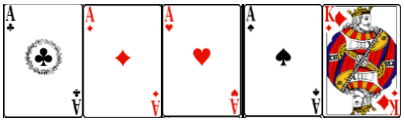
Q3: Evaluate cards

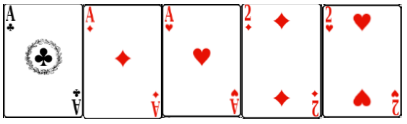
Q3.1

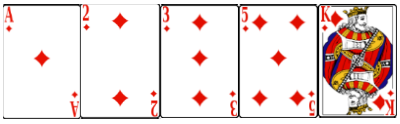
Evaluate the type of card.

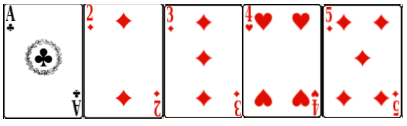
You need to evaluate following type.

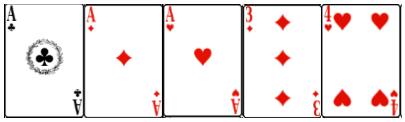
Straight Flush (Straight + Flush) e.g. 

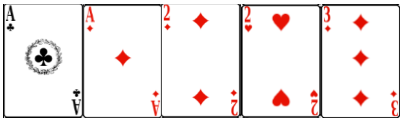
Four of a kind e.g. 

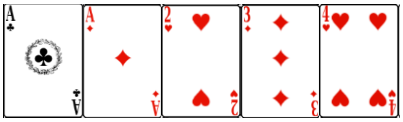
Full house e.g. 

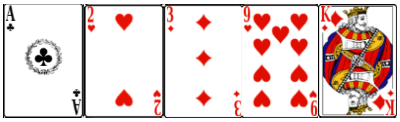
Flush e.g. 

Straight e.g. 

Three of a Kind e.g. 

Two pairs e.g. 

One pair e.g. 

High card e.g. 

For convenience you can ignore  this type in straight.

(This type should be classified as High card)

Q4: Compare and output winner

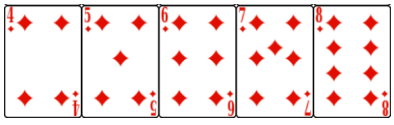
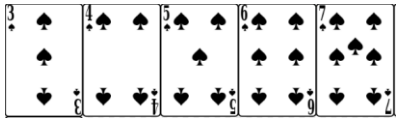
Q4.1

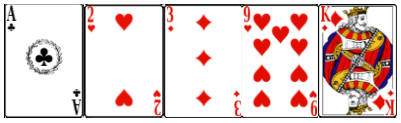
Compare the type of cards of each player and output the winner.

Straight Flush > Four of a kind > Full house > Flush > Straight > Three of a Kind > Two pairs > One pair > High card

Just consider type of cards (regardless of suit and number)

For example:

 ,  is same.

 ,  is same.

Some example input and output:

```
Enter S to start the game, C to enter cheating mode, Q to Exit the process
s

Player cards:
S3 S4 H7 C8 H8
Player cards:
H1 H5 D8 D12 H13
Player1 win
```

```
Enter S to start the game, C to enter cheating mode, Q to Exit the process
c

Input player1's cards:2 3 4 5 6
Input player2's cards:32 33 34 35 36
Player cards:
C3 C4 C5 C6 C7
Player cards:
H7 H8 H9 H10 H11
Draw
```

```
Enter S to start the game, C to enter cheating mode, Q to Exit the process
s

Player cards:
D1 H4 H6 D11 H12
Player cards:
H3 S5 S6 H9 S9
Player2 win
```

```
Enter S to start the game, C to enter cheating mode, Q to Exit the process
c

Input player1's cards:3 16 29 30 43
Input player2's cards:2 4 6 8 10
Player cards:
C4 D4 H4 H5 S5
Player cards:
C3 C5 C7 C9 C11
Player1 win
```