Author: Zhen Liu
Instructor: Dr. Mark E. Lehr
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War

— The Card Game

Project 1

Introduction

I chose the card game **War** to be my first project. This is a card game for two players.

1. A deck of 52 cards are shuffled and divided evenly with each player receiving 26 cards placed face down.
2. Each player turns up a card at the same time, and whoever has the higher value card takes both as a form of points.
3. If the cards are the same rank, it is a war. Then each player places one more card down. Whoever has the higher card takes both piles (4 cards)
4. If the turned-up is a war again, then repeat *step 3*. Then whoever has the higher card takes both piles (6 cards). And so on.
5. The player who ends the game with the most cards wins the game.

Progression

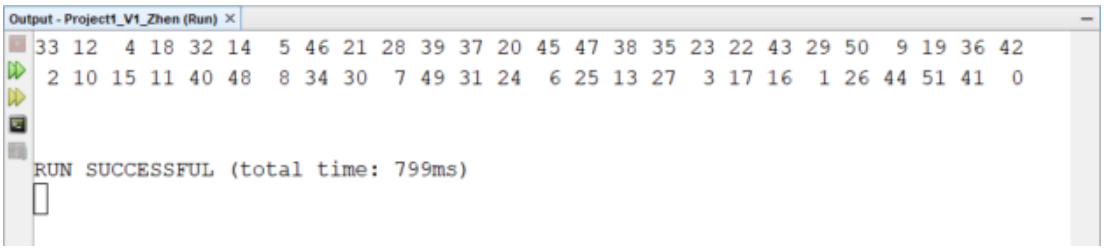
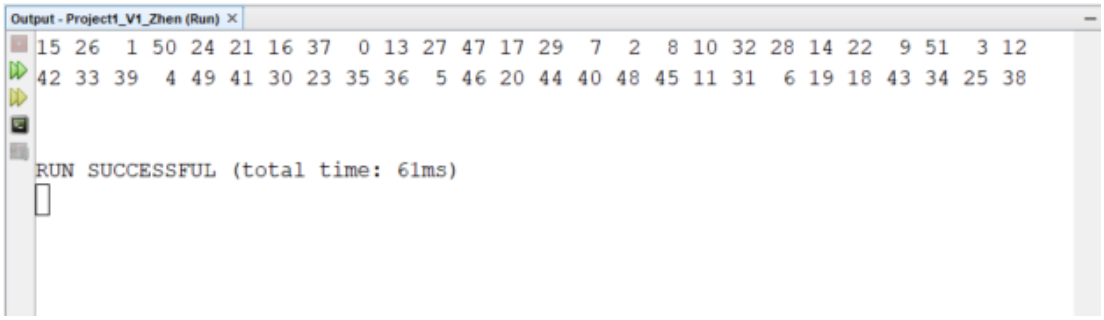
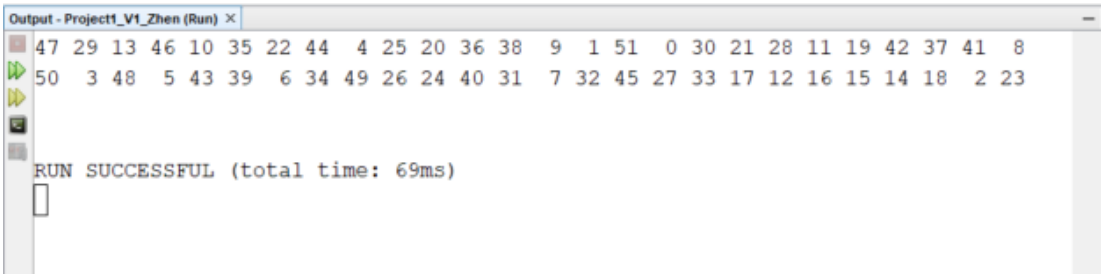
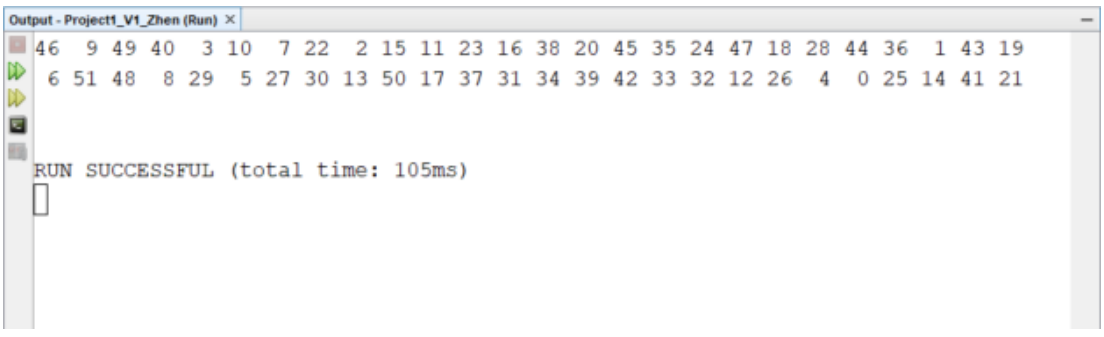
Version 0

Create an input file of 52 numbers between 0 to 51.

1	Output - Project1_V0_Zhen (Run) 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 RUN SUCCESSFUL (total time: 91ms)

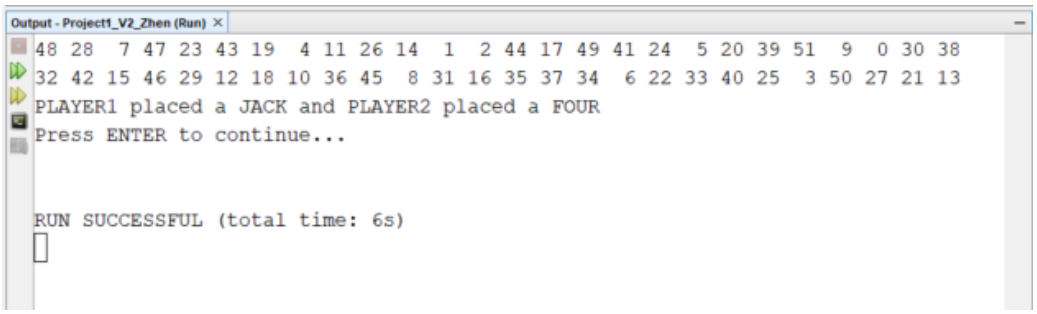
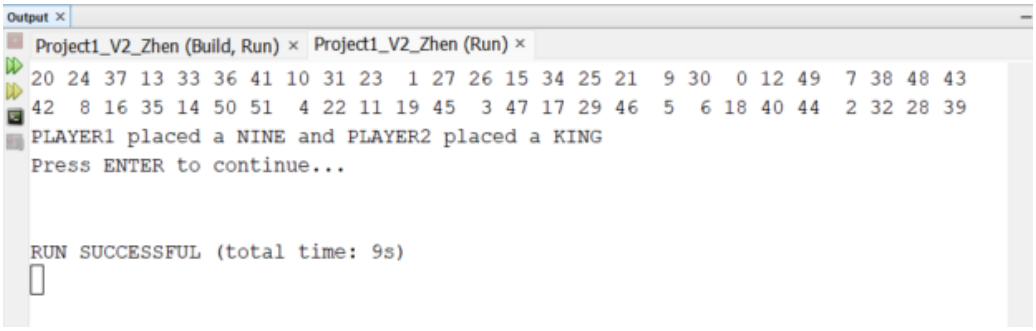
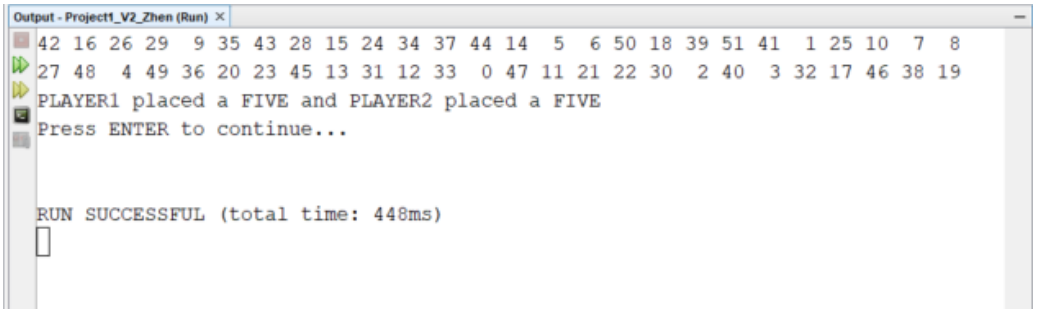
Version 1

1. Read the numbers from the input file, randomly and evenly distributed into two groups. Each group can be represented to each player.
2. Use iomanip to organize the format.
   I have attached 4 trial screenshots of two groups where the numbers were randomly and evenly distributed.

1	
2	
3	
4	

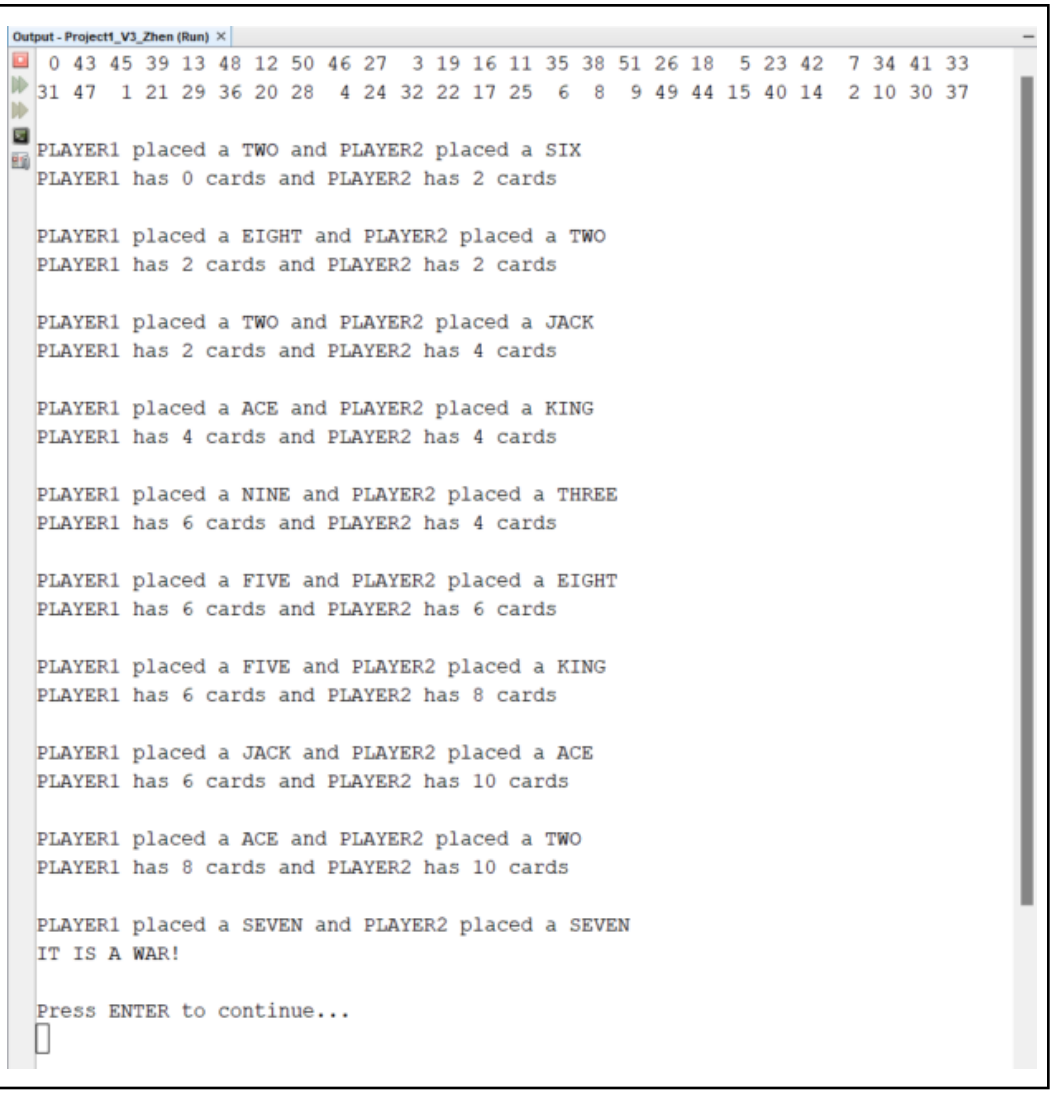
Version 2

1. Because this game only needs to compare the value of two players' cards, not the suits of cards. Therefore I set numbers to represent the card's face from ACE to KING using independent *if* statements.
   (For example: numbers 12, 25, 38, 51, are represent a card of 'ACE'.
   numbers 11, 24, 37, 50, are represent a card of 'KING'.)

1	
2	
3	

Version 3

1. It shows how to compare the cards of two players. Whoever has the highest value of the card wins the round. Also, in this version, it shows how many cards the winner earned from each round and adds it up to the total cards that each player has. If two players place the same value on the card, it is a war.

1	

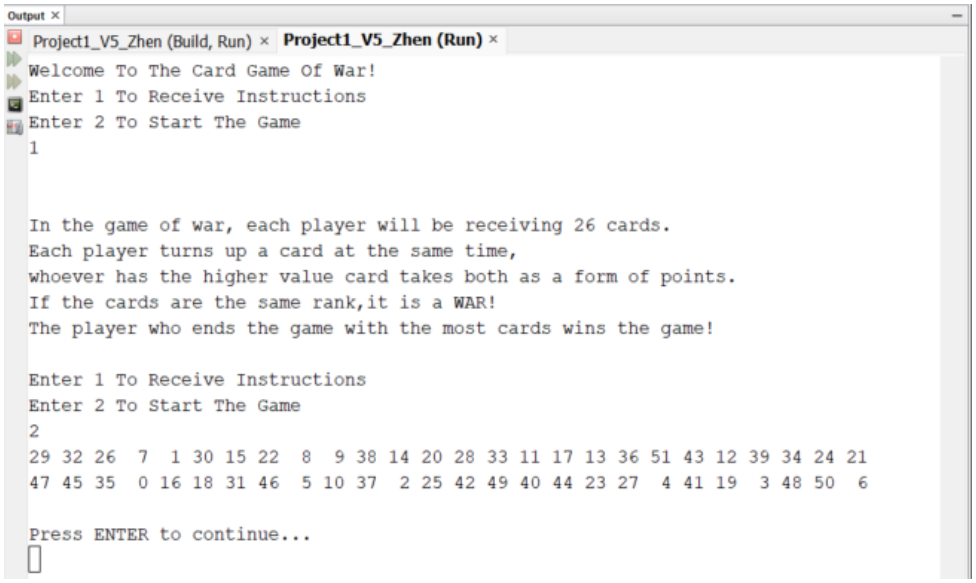
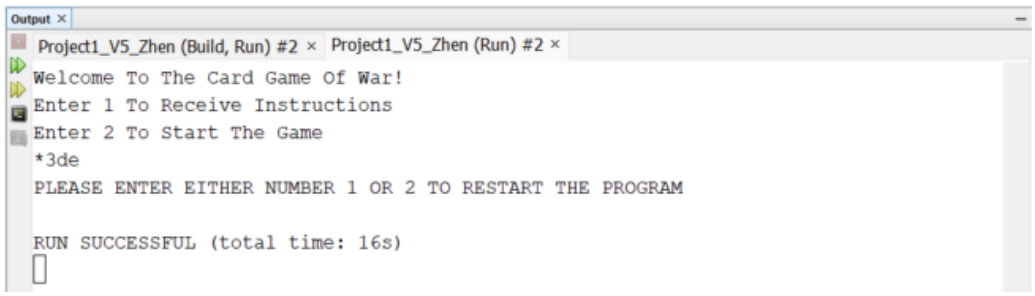
Version 4

1. In this version, the program shows when the “WAR” situation occurs in the game. Also, to make the situation where the “WAR” would occur more than once with using a while loop.
2. The base for the rest of the program finished in this version.

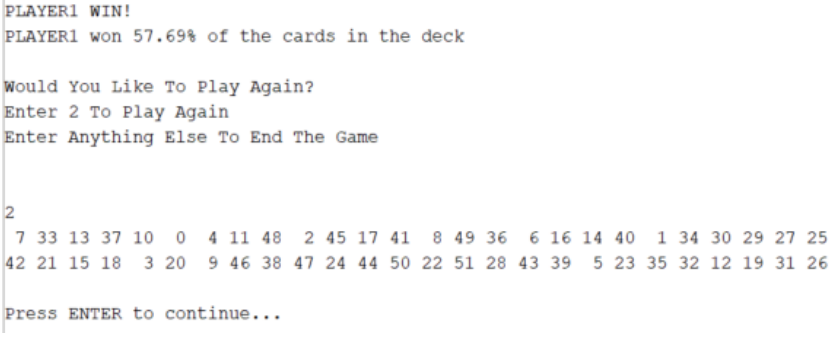
1	PLAYER1 placed a QUEEN and PLAYER2 placed a THREE PLAYER1 has 10 cards and PLAYER2 has 4 cards Press ENTER to continue... PLAYER1 placed a TWO and PLAYER2 placed a EIGHT PLAYER1 has 10 cards and PLAYER2 has 6 cards Press ENTER to continue... PLAYER1 placed a ACE and PLAYER2 placed a TEN PLAYER1 has 12 cards and PLAYER2 has 6 cards Press ENTER to continue... PLAYER1 placed a SEVEN and PLAYER2 placed a KING PLAYER1 has 12 cards and PLAYER2 has 8 cards Press ENTER to continue... PLAYER1 placed a QUEEN and PLAYER2 placed a QUEEN IT IS A WAR! Press ENTER to continue... PLAYER1 placed a SEVEN and PLAYER2 placed a TEN PLAYER1 LOST THE WAR! PLAYER1 has 12 cards and PLAYER2 has 12 cards Press ENTER to continue... PLAYER1 placed a THREE and PLAYER2 placed a THREE IT IS A WAR! Press ENTER to continue... PLAYER1 placed a ACE and PLAYER2 placed a TWO PLAYER1 WON THE WAR! PLAYER1 has 16 cards and PLAYER2 has 12 cards Press ENTER to continue...

Version 5

1. This is the final version. The program was adjusted to meet all of the requirements listed on the spreadsheet sheet.
2. It starts with a menu that begins the program to receive instructions or start the game of the user's selection.

1	
2	

3. The end of the game shows the percentage of cards won out of the whole deck by the winner. Also, it gives the user the option to play again or to end the game.
   The percentage would be written into the output file.

1	

Screenshot of the Whole Game

1

Project1_V5_Zhen (Build, Run) × Project1_V5_Zhen (Run) ×

```
Welcome To The Card Game Of War!
Enter 1 To Receive Instructions
Enter 2 To Start The Game
1


In the game of war, each player will be receiving 26 cards.
Each player turns up a card at the same time,
whoever has the higher value card takes both as a form of points.
If the cards are the same rank,it is a WAR!
The player who ends the game with the most cards wins the game!

Enter 1 To Receive Instructions
Enter 2 To Start The Game
2
46 40 24 20 19 48  2 10 25  3 11 27 15 18  1 39 34 32 38 44 23  5 37 14 36 22
43 21 49 31 35  4 26 42 50 33 13 16  6  9 41 45  8 30  7  0 29 12 47 17 28 51

Press ENTER to continue...

PLAYER1 placed a NINE and PLAYER2 placed a THREE
PLAYER1 has   2 cards and PLAYER2 has   0 cards
Press ENTER to continue...

PLAYER1 placed a KING and PLAYER2 placed a NINE
PLAYER1 has   4 cards and PLAYER2 has   0 cards
Press ENTER to continue...

PLAYER1 placed a EIGHT and PLAYER2 placed a JACK
PLAYER1 has   4 cards and PLAYER2 has   2 cards
Press ENTER to continue...

PLAYER1 placed a FOUR and PLAYER2 placed a QUEEN
PLAYER1 has   4 cards and PLAYER2 has   4 cards
Press ENTER to continue...

PLAYER1 placed a ACE and PLAYER2 placed a FIVE
PLAYER1 has   6 cards and PLAYER2 has   4 cards
Press ENTER to continue...

PLAYER1 placed a KING and PLAYER2 placed a THREE
PLAYER1 has   8 cards and PLAYER2 has   4 cards
Press ENTER to continue...

PLAYER1 placed a FOUR and PLAYER2 placed a SEVEN
PLAYER1 has   8 cards and PLAYER2 has   6 cards
Press ENTER to continue...

PLAYER1 placed a THREE and PLAYER2 placed a TWO
PLAYER1 has  10 cards and PLAYER2 has   6 cards
Press ENTER to continue...
```

2


Output
Project1_V5_Zhen (Build, Run)
Project1_V5_Zhen (Run)
PLAYER1 placed a TEN and PLAYER2 placed a EIGHT
PLAYER1 has 12 cards and PLAYER2 has 6 cards
Press ENTER to continue...
PLAYER1 placed a ACE and PLAYER2 placed a SEVEN
PLAYER1 has 14 cards and PLAYER2 has 6 cards
Press ENTER to continue...
PLAYER1 placed a QUEEN and PLAYER2 placed a SEVEN
PLAYER1 has 16 cards and PLAYER2 has 6 cards
Press ENTER to continue...
PLAYER1 placed a KING and PLAYER2 placed a THREE
PLAYER1 has 18 cards and PLAYER2 has 6 cards
Press ENTER to continue...
PLAYER1 placed a QUEEN and PLAYER2 placed a JACK
PLAYER1 has 20 cards and PLAYER2 has 6 cards
Press ENTER to continue...
PLAYER1 placed a SIX and PLAYER2 placed a TEN
PLAYER1 has 20 cards and PLAYER2 has 8 cards
Press ENTER to continue...
PLAYER1 placed a QUEEN and PLAYER2 placed a SEVEN
PLAYER1 has 22 cards and PLAYER2 has 8 cards
Press ENTER to continue...
PLAYER1 placed a JACK and PLAYER2 placed a SIX
PLAYER1 has 24 cards and PLAYER2 has 8 cards
Press ENTER to continue...
PLAYER1 placed a TWO and PLAYER2 placed a FIVE
PLAYER1 has 24 cards and PLAYER2 has 10 cards
Press ENTER to continue...
PLAYER1 placed a KING and PLAYER2 placed a NINE
PLAYER1 has 26 cards and PLAYER2 has 10 cards
Press ENTER to continue...
PLAYER1 placed a TWO and PLAYER2 placed a FIVE
PLAYER1 has 26 cards and PLAYER2 has 12 cards
Press ENTER to continue...
PLAYER1 placed a EIGHT and PLAYER2 placed a JACK
PLAYER1 has 26 cards and PLAYER2 has 14 cards
Press ENTER to continue...
PLAYER1 placed a FOUR and PLAYER2 placed a EIGHT
PLAYER1 has 26 cards and PLAYER2 has 16 cards
Press ENTER to continue...

3	PLAYER1 placed a TEN and PLAYER2 placed a SIX PLAYER1 has 28 cards and PLAYER2 has 16 cards Press ENTER to continue... PLAYER1 placed a NINE and PLAYER2 placed a TWO PLAYER1 has 30 cards and PLAYER2 has 16 cards Press ENTER to continue... PLAYER1 placed a FIVE and PLAYER2 placed a ACE PLAYER1 has 30 cards and PLAYER2 has 18 cards Press ENTER to continue... PLAYER1 placed a TEN and PLAYER2 placed a SIX PLAYER1 has 32 cards and PLAYER2 has 18 cards Press ENTER to continue... PLAYER1 placed a FOUR and PLAYER2 placed a ACE PLAYER1 has 32 cards and PLAYER2 has 20 cards PLAYER1 WIN! PLAYER1 won 61.54% of the cards in the deck Would You Like To Play Again? Enter 2 To Play Again Enter Anything Else To End The Game n RUN SUCCESSFUL (total time: 11s)