Card Game App

This application designed to play the card game. The game will be played by two players using 40 cards and the cards have the value from (1-10).The cards are shuffled using Fisher-Yates algorithm. Each player starts playing with 20 cards. The rule for winning the game in each round is the player who draws higher value card wins that particular round and adds these two cards to the discard pile of the winner. If both players draw same value cards then there is no winner in this round and winner in the next round will get the same value cards played in the previous round. Once the cards in the draw pile are over, then the cards in the discard pile will be shuffled and players continue to play using these cards. If a player doesn’t have any card in the draw as well as discard pile then that particular player will lose the game. Since using the cards in the Discard pile again and again, this will result in infinite loop. Hence I restricted the game to play with discard cards got when the first set of 40 cards were played. Judgement for the winner of the game will be based the winner in each round played with first 40 cards and then with discard cards got when the game was played using 40 cards.

**The Program can be tested from command line in the following way.**

Open command prompt and execute the exe.

C:\Users\SONY>C:\Users\SONY\source\repos\CardGameApp\CardGameApp\bin\Debug\netcoreapp3.1\CardGameApp.exe

**Output of the Program will be**

Assigned cards of Player1

10,10,3,6,2,5,3,7,8,2,5,10,6,8,6,9,6,2,10,4

Assigned cards of Player2

9,7,5,4,4,2,1,1,1,4,1,9,5,7,9,3,8,8,7,3

Player 1 (20 cards) :10

Player 2 (20 cards) :9

Player 1 wins this round

Player 1 (21 cards) :10

Player 2 (19 cards) :7

Player 1 wins this round

Player 1 (22 cards) :3

Player 2 (18 cards) :5

Player 2 wins this round

Player 1 (23 cards) :6

Player 2 (17 cards) :4

Player 1 wins this round

Player 1 (24 cards) :2

Player 2 (16 cards) :4

Player 2 wins this round

Player 1 (25 cards) :5

Player 2 (15 cards) :2

Player 1 wins this round

Player 1 (26 cards) :3

Player 2 (14 cards) :1

Player 1 wins this round

Player 1 (27 cards) :7

Player 2 (13 cards) :1

Player 1 wins this round

Player 1 (28 cards) :8

Player 2 (12 cards) :1

Player 1 wins this round

Player 1 (29 cards) :2

Player 2 (11 cards) :4

Player 2 wins this round

Player 1 (30 cards) :5

Player 2 (10 cards) :1

Player 1 wins this round

Player 1 (31 cards) :10

Player 2 (9 cards) :9

Player 1 wins this round

Player 1 (32 cards) :6

Player 2 (8 cards) :5

Player 1 wins this round

Player 1 (33 cards) :8

Player 2 (7 cards) :7

Player 1 wins this round

Player 1 (34 cards) :6

Player 2 (6 cards) :9

Player 2 wins this round

Player 1 (35 cards) :9

Player 2 (5 cards) :3

Player 1 wins this round

Player 1 (36 cards) :6

Player 2 (4 cards) :8

Player 2 wins this round

Player 1 (37 cards) :2

Player 2 (3 cards) :8

Player 2 wins this round

Player 1 (38 cards) :10

Player 2 (2 cards) :7

Player 1 wins this round

Player 1 (39 cards) :4

Player 2 (1 cards) :3

Player 1 wins this round

First set of the game is over,Going to play with DiscardPile

Discard piles are shuffled and assigned back to the players

Next set of cards for Player1

3,1,9,10,5,5,1,7,6,10,7,3,7,1,1,2,3,4,6,10,7,10,8,9,4,5,8,9

Next set of cards for Player2

4,3,9,2,8,8,2,6,2,5,4,6

Player 1 (28 cards) :3

Player 2 (12 cards) :4

Player 2 wins this round

Player 1 (29 cards) :1

Player 2 (11 cards) :3

Player 2 wins this round

Player 1 (30 cards) :9

Player 2 (10 cards) :9

No winner in this round

Player 1 (31 cards) :10

Player 2 (9 cards) :2

Player 1 wins this round

Player 1 (32 cards) :5

Player 2 (8 cards) :8

Player 2 wins this round

Player 1 (33 cards) :5

Player 2 (7 cards) :8

Player 2 wins this round

Player 1 (34 cards) :1

Player 2 (6 cards) :2

Player 2 wins this round

Player 1 (35 cards) :7

Player 2 (5 cards) :6

Player 1 wins this round

Player 1 (36 cards) :6

Player 2 (4 cards) :2

Player 1 wins this round

Player 1 (37 cards) :10

Player 2 (3 cards) :5

Player 1 wins this round

Player 1 (38 cards) :7

Player 2 (2 cards) :4

Player 1 wins this round

Player 1 (39 cards) :3

Player 2 (1 cards) :6

Player 2 wins this round

There are no more cards in the draw pile of Player 2

Player 1 wins the game!