

**Lab Goal :** This lab was designed to teach you more object oriented programming and how to write a larger game.

**Lab Description :** Write the complete game logic for BlackJack. At this point, Card, BlackJackCard, Deck, Player, and Dealer have been tested thoroughly. Put all of the pieces together to make a complete game of BlackJack.

```
public class BlackJack
{
    private Dealer dealer;
    private Player player;

    public BlackJack()
    {
        // instantiate all of your instance variables
    }

    public void playGame()
    {
        //all game code goes in here
    }

    public static void main( String args[ ] )
    {
        BlackJack game = new BlackJack();
        game.playGame();
    }
}
```

### Files Needed ::

Card.java  
BlackJackCard.java  
Deck.java  
Player.java  
Dealer.java  
BlackJack.java

## How do you play the game of BlackJack?

dealer shuffles the deck of cards

```
do{
    1st - deal the player two cards one at a time
          dealer deals himself two cards

    2nd - print out player's hand value and cards
            while(hand value < 21 and the player wants to hit)
                    deal the player the next card
                    print out player's hand value and cards

    3rd - print out dealer's hand value and cards
            while(dealer wants to hit)
                    code to add cards should be in dealer hit method
                    print out dealer's hand value and cards

    4th - determine which player won

    5th - update the win total for the winner

    6th - dealer shuffles the deck of Cards if needed

}while another game is to be played
```

## Sample Output :

```
Current hand hand = [NINE of HEARTS  
JACK of SPADES] - 19  
Do you want to hit? [Y/N] n
```

```
PLAYER  
Hand Value :: 19  
Hand Size :: 2  
Cards in Hand :: hand = [NINE of HEARTS  
JACK of SPADES] - 19
```

```
DEALER  
Hand Value :: 17  
Hand Size :: 3  
Cards in Hand :: hand = [EIGHT of CLUBS  
FOUR of DIAMONDS  
FIVE of HEARTS] - 17
```

Player has bigger hand value!

Dealer has won 0 times.  
Player has won 1 times.

```
Do you want to play again? [Y,y,N,n] :: y
```

```
Current hand hand = [JACK of HEARTS  
JACK of DIAMONDS] - 20  
Do you want to hit? [Y/N] n
```

```
PLAYER  
Hand Value :: 20  
Hand Size :: 2  
Cards in Hand :: hand = [JACK of HEARTS  
JACK of DIAMONDS] - 20
```

```
DEALER  
Hand Value :: 17  
Hand Size :: 3  
Cards in Hand :: hand = [QUEEN of SPADES  
TWO of DIAMONDS  
FIVE of CLUBS] - 17
```

Player has bigger hand value!

Dealer has won 0 times.  
Player has won 2 times.

```
Do you want to play again? [Y,y,N,n] :: y
```

```
Current hand hand = [SEVEN of DIAMONDS  
KING of DIAMONDS] - 17  
Do you want to hit? [Y/N] n
```

```
PLAYER  
Hand Value :: 17  
Hand Size :: 2  
Cards in Hand :: hand = [SEVEN of DIAMONDS  
KING of DIAMONDS] - 17
```

```
DEALER  
Hand Value :: 25  
Hand Size :: 3  
Cards in Hand :: hand = [QUEEN of CLUBS  
FIVE of SPADES  
TEN of DIAMONDS] - 25
```

Player wins - Dealer busted!

Dealer has won 0 times.  
Player has won 3 times.

```
Do you want to play again? [Y,y,N,n] :: n
```

