# Assignment #5: Blackjack!

In this assignment, you will build a simple game of blackjack where the computer plays as the dealer. In this simplified version of blackjack, the active player is dealt a card whose value ranges between 2 and 11. For simplicity, we will ignore the dual role that aces play (either as 1 or 11) and suits. Because of this, some impossible situations may occur, such as 5 2-value cards being dealt in a given hand. Likewise, this game does not use true odds as we won’t be modifying the odds of getting a card based on previous cards dealt.

## Program Flow

Your program should follow the general outline below.

### When the Hit button is clicked:

1. Deal the player a card.
2. Add the card’s value to the player’s total hand.

### After the player busts (goes over 21) or clicks the Stay button

1. If the player has not busted, begin computer’s play
2. Deal the computer a card
3. Add the value of the card to the computer’s hand total (score)
4. If a card causes the computer to bust (go over 21), tell player that they won.
5. If the computer’s hand total is less than 17, it must take another card (hit). Go to step #2.
6. If the computer’s hand is 17 or more, the computer stands. Go to next Phase.

### Determining the Winner

1. If the player has not busted (gone over 21) and the computer busted, the player wins
2. If the player has not busted, the computer has not busted, and the player’s hand total is greater than the computer, then the player wins
3. If the player has not busted, the computer has not busted, and the player’s hand total is less than the computer’s then the computer wins
4. If the player has busted, then the computer wins.

### When the New Game button is clicked:

1. Reset the text on the screen.
2. Reset any logic that you are using to track hand values.

## Recommended Variables

It might be helpful for your program to track the following items using variables:

* The player’s current score
* The computer’s current score
* Whether or not the player has busted
* The value of the next card drawn

## Deliverables

You must upload your program through Canvas no later than midnight on Wednesday, October 31, 2018. In addition, you will demo the current state of your code during lab 9. This demo will be for credit.

## Grading Criteria

Your assignment will be judged by the following criteria:

### Proper Implementation

* [10] The program runs without crashing
* [10] The program randomly draws cards
* [**bonus** **3**] In addition to a value, your game displays a valid suit (NOTE: this requires you to modify the dealToPlayer function)
* [**bonus 4**] In addition to a value and suit, your game uses true odds
* [10] The program correctly identifies when the player has busted
* [10] The program correctly identifies when the computer has busted
* [10] The program correctly identifies the winner
* [15] The computer always hits when its score is less than 17 and always stands when the score is 17 or greater

### Lab #9 Checkin

* [10] Your demo during lab #9 indicates that you are on track to receive full credit on the assignment.