Blackjack Flowchart

1.
Dealer shuffles/resets to a full deck.

2.
Dealer deals random cards--first card up, second card down, third card up and fourth card up, alternating, starting with Player 1 than himself, and so on.

3.
Deck will store remaining number of cards.

4.
Cards then Hands are assigned values.

5.
Dealer combines card values of Player 1's hand.

6.
If either of Player 1's cards is an Ace, Player1 will choose a value of 1 or 11.
If Dealer's showing card is an Ace, the value will be 11.

7.
First is Player 1's turn and can decide to "hit" or "stay".

8.
If "hit", Dealer deals Player 1 a random card (if card is an Ace, Player1 will choose a value of 1 or 11).
The deck will store remaining number of cards.
Player 1's new card then hand is assigned a new value.
If Player's 1 new hand value is less than 21, Player 1 can decide to "hit or "stay".
Once Player 1 "stays", move on to the Dealer's turn.

9.
Dealer checks win conditions:
If Player 1's new hand value is greater than 21, Player 1 "busts" (loses the game). GAME OVER!

10.
If "stay" , Player 1's hand value stays the same. No change to remaining number of cards

10.
Dealer reveals his second card.

11.
Dealer's cards then hand is assigned a value.
If value is less than 17, the Dealer must hit.

12.
Dealer deals himself a random card.
The deck will store remaining number of cards.
Dealer's new card then hand is assigned a new value.
If Dealer's new hand value is less than 17, Dealer "hits" again. until newest hand value is greater or equal to 17, but less than 21.
If the Dealer's hand value goes over 21, Player 1 wins. GAME OVER

13.
Dealer checks win conditions:
If Player 1's hand value and Dealer's hand value are equal, game is a "push". GAME OVER
If Player 1's hand value is closer to 21 than the Dealer's hand value, Player 1 wins. GAME OVER
If Dealer's hand value is closer to 21 than Player 1's hand value, Dealer wins. GAME OVER
If Dealer'sv hand value equals 21 it's a Blackjack Win. Player 1 loses. GAME OVER
If Player 1's hand value equals 21, it's a Blackjack Win. Player 1 wins. GAME OVER

14. Go back to step 1 for a new game.

Blackjack UML Diagram

Deck

ATTRIBUTES & METHODS

ATTRIBUTES
totalCardCount = 52;
suitsCount = 4;
faceCount = 12;
faceValue = 10;
aceCount = 4;
aceCountLow = 1;
aceCountHigh = 11;
oneCount = 4;
oneValue =1;
twoCount = 4;
twoValue = 2;
threeCount = 4;
threeValue = 3;

and so on...

METHODS
resetDeck()
updateDeck()

Player

ATTRIBUTES & METHODS

ATTRIBUTES
startsGame = "true";
handValue = 19;
dealer = "true";

METHODS
takeTurn()
deal()
hit()
chooseHit()
chooseStay()
checkforWin()

Card extends Deck

ATTRIBUTES & METHODS

ATTRIBUTES
name = "Ten";
suit = "diamond";
pointValue = 10;
yesAce = "true";

METHODS
assignValue()
show()
hide()

Suit extends Card

ATTRIBUTES & METHODS

ATTRIBUTES
name = "club";
symbol = "club.svg";

METHODS
appendSymbol();

Hand

ATTRIBUTES & METHODS

ATTRIBUTES
numCards = 2
this.value = value;

METHODS
combineCardValues()
show()
hide()
stay()