**CSC-5 PROJECT WRITE-UP: BLACKJACK PROGRAM**

Classes:

Card Card class - object representing a card - has a value, rank, and suit

Player Player class - object representing the player - has a Hand, a draw count, and an ace

count

Dealer Dealer class – Derived from Player class

Variables:

In Card class:

int:

c\_Val - stores the card value

char:

c\_Rank - stores the card rank

c\_Suit - stores the card suit

In Player class & Dealer class:

int:

DrawCt - stores the number of cards drawn for this hand

AceCt - stores the number of aces in the hand

Total - stores the total score of the player's hand

string:

p\_Name - represents the player name

Card (object):

c\_Card - represents the current card drawn

Hand[5] - array representing the hand of cards with a maximum of 5 cards to a hand

In main() function:

bool:

maxHit = false - sets to TRUE when player draws the maximum number of cards

int:

numDecks - stores the values for number of decks to be used,

Ct - stores the number of cards in the shoe

t\_Deck - stores the card count of the shoe

Char:

dChoice - stores the choice of dealer

p\_Hit - stores whether a player chooses to draw a card or not

Again - stores the choice whether another hand should be dealt or not

string:

P\_Name; - stores the name input for player

Card (object):

Shoe[] - array representing the blackjack shoe. Initialized with a size of int Ct

Functions:

In Card class:

Card() - constructor for the card object

Card(int, char, char) - stores the values of card dealt or drawn

~Card() - destructor for card

int getVal() - to access the card value

char getSuit() - to access the card suit

char getRank() - to access the card rank

void SetRank(char) - sets the card rank

void SetSuit(char) - sets the card suit

void SetVal(int) - sets the card value

In Player class:

Player() - constructor for player object

Player(string) - initializes the player name

~Player() - destructor for player object

virtual void HoleCards()

virtual bool DrawCard(Card\*, int &, int &)

virtual void ScoreIt()

void Greet() - prints a greeting

void ShowCard() - prints the rank and suit of the card drawn

int Totalup() - returns the total score of a player's hand

void Reset() - resets the player's variables

string Name() - outputs the player name

In Dealer class:

Dealer() - constructor for dealer object

Dealer(string); - initializes the dealer name

~Dealer() - destructor for dealer object

void HoleCards() - print the dealer's hole cards

bool DrawCard(Card\*, int &, int &) - draw a card from the Shoe

void ScoreIt() - score the dealer starting hand

void Reset() - Resets the Dealer's variables

Global functions:

Card Deck(int) - Creates a Shoe of decks of Card objects

void Shuffle(Card\*, int ); - Shuffles the Shoe

bool isBusted(int) - returns true if Player or Dealer score is Busted

bool isWinner(int, int) - returns true if Player score is >= Dealer score