Project Title: Black Jack

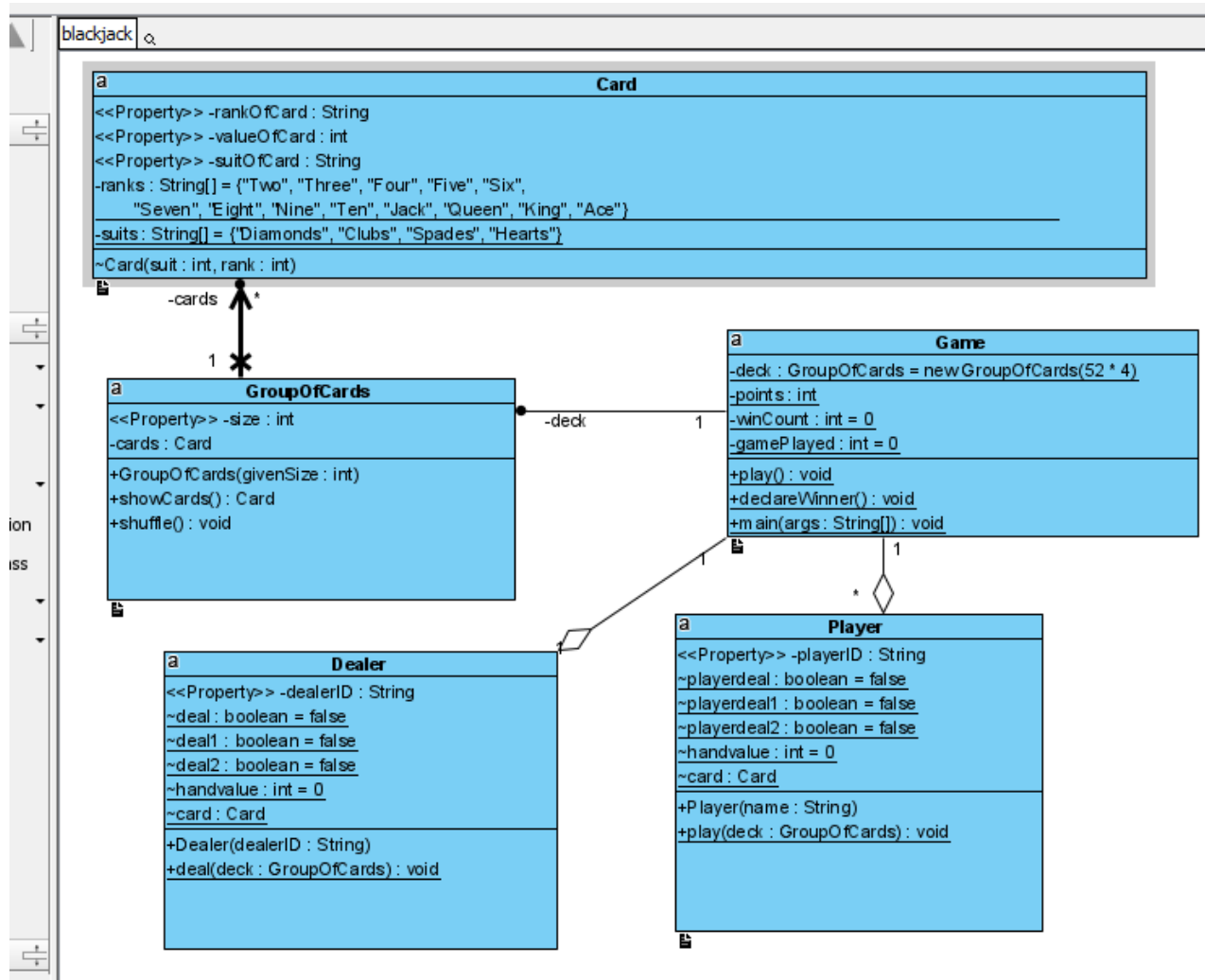**Professor Name:** Amandeep Sidhu

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1) Project Background and Description

As discussed in deliverable 1 and deliverable2, the objective of the game is to beats the dealer's set of cards' total value by having a set of cards whose total value is more than dealer's set of cards. The cards have their own value except for the face cards and the ace. The face cards are all ten each, and the ace is either one or eleven depending on what the player wants. All the players are playing against the dealer.

2) Class Diagram

blackjack

Card
```
<<Property>> -rankOfCard : String
<<Property>> -valueOfCard : int
<<Property>> -suitOfCard : String
-ranks : String[] = {"Two", "Three", "Four", "Five", "Six",
     "Seven", "Eight", "Nine", "Ten", "Jack", "Queen", "King", "Ace"}
-suits : String[] = {"Diamonds", "Clubs", "Spades", "Hearts"}
```
```
~Card(suit : int, rank : int)
```

-cards   1   *

GroupOfCards
```
<<Property>> -size : int
-cards : Card
```
```
+GroupOfCards(givenSize : int)
+showCards() : Card
+shuffle() : void
```

-deck   1

Game
```
-deck : GroupOfCards = new GroupOfCards(52 * 4)
-points : int
-winCount : int = 0
-gamePlayed : int = 0
```
```
+play() : void
+declareWinner() : void
+main(args : String[]) : void
```

Dealer
```
<<Property>> -dealerID : String
~deal : boolean = false
~deal1 : boolean = false
~deal2 : boolean = false
~handvalue : int = 0
~card : Card
```
```
+Dealer(dealerID : String)
+deal(deck : GroupOfCards) : void
```

Player
```
<<Property>> -playerID : String
~playerdeal : boolean = false
~playerdeal1 : boolean = false
~playerdeal2 : boolean = false
~handvalue : int = 0
~card : Card
```
```
+Player(name : String)
+play(deck : GroupOfCards) : void
```

3) GitHub Link: https://github.com/Sandhvan/BlackJack

4) GitHub Source Code Link:

https://github.com/Sandhvan/BlackJack/tree/master/src/main/java/blackjack

5) GitHub Test Script Link:

https://github.com/Sandhvan/BlackJack/tree/master/src/test/java/blackjack

6) Test Result Report:

Requirements	Use Case	Test Method	Status
To draw a card	Remove a card from array list of a card	testShowCardGood() testShowCardBad() testShowCardBoundary()	Pass Pass Pass
To shuffle deck	Using shuffle method of an array list	testShuffle()	Pass
To get size of deck	Using setter method	testSetSize()	Pass
Drawing card for dealer	Using if and else to draw cards	testDealGood() testDealBad() testDealBoundary()	Pass Pass Pass
To get Id of dealer	Using getter method	testGetDealerId()	Pass
To get Id of player	Using getter method	testGetPlayerId()	Pass
Drawing card for player	Using if and else to draw cards	testPlayGood() testPlayBad() testPlayBoundary()	Pass Pass Pass