

Assignment Four

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AIML-B3

Main.Java File

```
import
java.util.Scanner;
public class Main {
    public static void main(String[] args) {
        Deck deck = new Deck();
        Scanner scanner = new Scanner(System.in);
        while (true) {
            System.out.println("\nMenu:");
            System.out.println("1. Display the entire deck");
            System.out.println("2. Display a single card");
            System.out.println("3. Shuffle the deck");
            System.out.println("4. Deal cards");
            System.out.println("5. Find a card");
            System.out.println("6. Exit");
            System.out.print("Enter your choice (1-6): ");
            int choice = scanner.nextInt();
            scanner.nextLine(); // Consume the newline character
            switch (choice) {
            case 1:
                System.out.println("Entire deck: " +
deck.getDeck());
                break;
            case 2:
                System.out.println("Single card: " +
deck.getCard());
                break;
            case 3:
                deck.shuffleDeck();
                System.out.println("Deck shuffled.");
                break;
            case 4:
                System.out.println("Dealt cards: " +
deck.dealCards());
                break;
            case 5:
                Card foundCard = deck.findCard();
                if (foundCard != null) {
                    System.out.println("Card found: " +
foundCard);
                } else {
                    System.out.println("Card not found.");
                }
            }
        }
    }
}
```

```

        }
break;
case 6:
    System.out.println("Exiting program.
Goodbye!");
    System.exit(0);
break;
default:
    System.out.println("Invalid choice. Please
enter a number between 1 and 6.");
    }
    }
    }
}
}

```

Deck.Java File

```

import java.util.*;

public class Deck {
    ArrayList<Card> cards = new ArrayList<Card>();

    String[] values = {"A", "2", "3", "4", "5", "6", "7", "8",
"9", "10", "J", "Q", "K"};
    String[] suit = {"Club", "Spade", "Diamonds", "Heart"};

    public Deck(){
        for(int i =0; i <suit.length; i++){
for(int j =0; j < values.length; j++){
            this.cards.add(new Card(suit[i], values[j]));
        }
    }
}

    public ArrayList<Card> getDeck(){
        return cards;
    }
    public Object getCard(){
        return cards.get(0);
    }
    public ArrayList<Card> shuffleDeck(){
        Collections.shuffle(cards);
        return cards;
    }
}

```

```

        public ArrayList<Card> dealCards() {
            ArrayList<Card> randomCards = new ArrayList<Card>();
            Collections.shuffle(cards);
            randomCards.addAll(cards.subList(0, 5));

            return
            randomCards;
        }

        public Card
        findCard() {
            Scanner scanner =
            new Scanner(System.in);

            System.out.print("Enter the
            suit of the card: ");
            String inputSuit
            = scanner.nextLine();

            System.out.print("Enter the
            value of the card: ");
            String inputValue
            = scanner.nextLine();

            for (Card card : cards) {
                if (card.getSuit().equalsIgnoreCase(inputSuit) &&
                card.getValue().equalsIgnoreCase(inputValue)) {
                    return card;
                }
            }

            return null; // Card not found
        }
    }
}

```

Card.Java File

```

public class Card {
    private String suit;
    private String value;

    public Card(String suit, String value) {
        this.suit = suit;
        this.value = value;
    }

    public String
    getSuit() {

```

```
        return  
suit;  
    }  
    public String  
setValue() {  
        return  
value;  
    }  
    public String toString(){  
        return "\n" + value + " of " + suit;  
    }  
    public String getValue() {  
        return value;  
    }  
}
```