PIJL Assignment-4

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Code:

// Card.java

public class Card {

private String suit;

private String rank;

// Constructor to initialize card properties

public Card(String suit, String rank) {

this.suit = suit;

this.rank = rank;

}

// Getters for Suit and Rank

public String getSuit() {

return suit;

}

public String getRank() {

return rank;

}

// Print the card details

public void printCard() {

System.out.println(rank + " of " + suit);

}

// Check if two cards belong to the same suit

public boolean sameCard(Card other) {

return this.suit.equals(other.suit);

}

// Check if two cards have the same rank

public boolean compareCard(Card other) {

return this.rank.equals(other.rank);

}

// Check if a given card matches this card

public boolean isEqual(Card other) {

return this.suit.equals(other.suit) && this.rank.equals(other.rank);

}

}

// Deck.java

import java.util.\*;

public class Deck {

private ArrayList<Card> deck;

private String[] suits = {"Hearts", "Diamonds", "Clubs", "Spades"};

private String[] ranks = {"2", "3", "4", "5", "6", "7", "8", "9", "10",

"Jack", "Queen", "King", "Ace"};

// Constructor to create a deck of 52 cards

public Deck() {

createDeck();

}

// Method to create deck

public void createDeck() {

deck = new ArrayList<>();

for (String suit : suits) {

for (String rank : ranks) {

deck.add(new Card(suit, rank));

}

}

}

// Print all cards in the deck

public void printDeck() {

for (Card card : deck) {

card.printCard();

}

}

// Shuffle the deck randomly

public void shuffleDeck() {

Collections.shuffle(deck);

System.out.println("Deck shuffled successfully!");

}

// Search for a specific card and return its index position

public int findCard(String suit, String rank) {

for (int i = 0; i < deck.size(); i++) {

Card card = deck.get(i);

if (card.getSuit().equalsIgnoreCase(suit) && card.getRank().equalsIgnoreCase(rank)) {

System.out.println("Card found at index: " + i);

return i;

}

}

System.out.println("Card not found.");

return -1;

}

// Deal 5 random cards

public void dealCard() {

shuffleDeck();

System.out.println("Dealing 5 random cards:");

for (int i = 0; i < 5; i++) {

deck.get(i).printCard();

}}}

/\*

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import java.util.Scanner;

public class Main {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

Deck deck = new Deck();

while (true) {

System.out.println("\n--- CARD DECK MENU ---");

System.out.println("1. Print Deck");

System.out.println("2. Shuffle Deck");

System.out.println("3. Search for a Card");

System.out.println("4. Deal 5 Cards");

System.out.println("5. Exit");

System.out.print("Enter your choice: ");

int choice = scanner.nextInt();

scanner.nextLine(); // Consume newline

switch (choice) {

case 1:

deck.printDeck();

break;

case 2:

deck.shuffleDeck();

break;

case 3:

System.out.print("Enter card suit: ");

String suit = scanner.nextLine();

System.out.print("Enter card rank: ");

String rank = scanner.nextLine();

int position = deck.findCard(suit, rank);

if (position != -1) {

System.out.println("The card is located at index: " + position);

}

break;

case 4:

deck.dealCard();

break;

case 5:

System.out.println("Exiting program. Thank you!");

scanner.close();

return;

default:

System.out.println("Invalid choice! Try again.");

}}}}

Output:



