```java
import java.util.ArrayList;
import java.util.Random;

/**
 * Simulates a deck of 52 playing cards.
 *
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 *  @note I affirm that I have carried out the attached academic endeavors with full academic honesty,
 *  in accordance with the Union College Honor Code and the course syllabus.
 */

public class Deck {
    private static final int NUMBER_OF_CARDS=52;
    private static final int NUMBER_OF_SUITS=4;
    private static final int CARDS_IN_SUIT=13;
    private final int START = 0;
    private final int FIRST_RANK = 2;
    private final int FIRST_CARD = 0;
    private final int EMPTY = 0;

    private ArrayList<Card> theCards;
    private boolean shuffled;

    /**
     * Constructs a new ordered deck of playing cards
     */
    public Deck()
    {
        theCards = new ArrayList<Card>(NUMBER_OF_CARDS);

        addAllCards();

        shuffled=false;
    }


    /**
     * Deals out next card in deck; returns null if no cards left
     *
     * @return next card in deck or null if deck empty
     */
    public Card deal() {
        if (! isEmpty()) {
            if (shuffled) {
                return dealRandom();
            }

            else {
                return theCards.remove(FIRST_CARD);
            }
        }

        else {
            return null;
        }
    }

    /**
     * Deals out random card in deck
     *
     * @return random card in deck
     */
    private Card dealRandom() {
        Random random = new Random();
        int randomNumber = random.nextInt(size());

        return theCards.remove(randomNumber);
    }

    /** determines if deck has any cards left in it
     *
     * @return true if Deck empty; else false
     */
    public boolean isEmpty(){
        if (size() == EMPTY) {
            return true;
        }

        else {
            return false;
        }
    }

    /**
     * Shuffles the cards
     */
    public void shuffle() {shuffled = true;}

    /** Returns number of undealt cards left in the deck
     *
     * @return number of undealt cards in the deck
     */
    public int size() {return theCards.size();}

    /**
     * Reset the deck by gathering up all dealt cards.
     * Postcondition: Deck contains all cards and is NOT shuffled
     */
    public void gather() {
        theCards.clear();
        addAllCards();

        shuffled=false;
    }

    /**
     * Adds all cards into the deck
     */
    private void addAllCards() {
        for (int suit = START; suit < NUMBER_OF_SUITS; suit++) {
            for (int rank = FIRST_RANK; rank < CARDS_IN_SUIT + 2; rank++) {
                theCards.add(new Card(rank, suit));
            }
        }
    }

    /**
```

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     *  DEBUGGING METHOD: prints out stats of the given list of cards, that is, what was dealt.
     *  Prints the remaining number of cards of each suit and of each rank.
     *
     *  @param cardList list of cards that are (were) in the deck
     * @hidden
     */
    public void printStats(ArrayList<Card> cardList)
    {
        int Hcount=0;
        int Dcount=0;
        int Scount=0;
        int Ccount=0;
        int[] ranks = new int[CARDS_IN_SUIT];
        int size=cardList.size();
        for (int i=0; i<size; i++)
        {
            int val = cardList.get(i).getRank();
            String suit = cardList.get(i).getSuit();
            if (suit.equals("clubs"))
                Ccount++;
            else if (suit.equals("diamonds"))
                Dcount++;
            else if (suit.equals("spades"))
                Scount++;
            else if (suit.equals("hearts"))
                Hcount++;
            ranks[val-2]++;  // deck RANKS run from 2-14 so need to subtract 2
        }
        System.out.println("***PRINTING DECK STATS***");
        System.out.println("# clubs: " + Ccount);
        System.out.println("# diamonds: " + Dcount);
        System.out.println("# hearts: " + Hcount);
        System.out.println("# spades: " + Scount);

        System.out.print("Card:\t");
        for (int j = 2; j< Card.RANKS.length; j++) {
            System.out.print(Card.RANKS[j]+"\t");
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        }
        System.out.println();
        System.out.print("Qty:\t");
        for (int j=0; j<ranks.length; j++) {
            System.out.print(ranks[j] + "\t");
            if (j>8) {  // indices 9-12 are Jack thru Ace
                System.out.print("\t");
            }
        }
        System.out.println("\n");
    }

    /**
     *  DEBUGGING METHOD: prints out stats of this Deck object
     *  Prints the remaining number of cards of each suit and of each rank.
     *
     * @hidden
     */
    public void printStats() {
        printStats(theCards);
    }


}

```