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Project 1 - Part 2

Java Version: *openjdk version "1.8.0_312"*

**Card Dealer:**

*Code:*

```
import java.util.*;


public class pt2cards {

    public static void main(String[] args) {
        //Scanner to read stdin
        Scanner scanner = new Scanner(System.in);

        //Infinite loop to keep running until a 0 gets entered
        while (true) {

            int numToShuffle = -1; //Store the number input

            //Infinite loop to keep running until a valid input gets entered
            while (true) {
                System.out.println("Please Enter Number Of Cards To Deal");

                //Logic from this Try catch error handling came from here
                // https://stackoverflow.com/questions/23163764/error-handling-
inputmismatchexception-in-java
                try {
                    numToShuffle = scanner.nextInt();
                } catch(InputMismatchException ignore){
                    scanner.next();
                }

                //Check if number is valid, or if it's time to exit
                if (numToShuffle < 55 && numToShuffle > 0) {
                    break;
                } else if (numToShuffle == 0) {
                    //Exit
                    scanner.close();
                    return;
                }
                //Loop and print error.
                System.out.println("Invalid entry, please enter a valid number");
```

```
            }

            //Create a new deck
            Deck test = new Deck();
            //generate the hand
            test.run(numToShuffle);
        }
    }
}


class Deck {
    //Variables for Storage
    ArrayList<String> fullDeck = new ArrayList<String>(); //Entire Deck

    //Default Initializer
    //Just create full deck
    public Deck() {
        initialize();
    }

    //Run
    //Generate Hand with specified number of cards
    //Takes number of cards to deal as parameter
    //Prints hand to terminal
    public void run(int numCards) {
        Collections.shuffle(fullDeck, new Random()); //Shuffles the Full Deck using a
random seed from the random number generator
        System.out.println(fullDeck.subList(0, numCards)); //Selects the first x
options in full deck after shuffling
    }
    //Initialize
    //Initialize the Full Deck (54 Cards)
    //No Parameters
    //No Output
    public void initialize() {
        String suits[] = {"❤️","♦️","♠️","♣️"};
        String rank[] = {"A", "2", "3", "4", "5", "6", "7", "8", "9", "10", "J", "Q",
"K"};
        for(String x: suits) {
            for(String y: rank) {
                fullDeck.add(y+x);
            }
        }
        fullDeck.add("Joker1");
        fullDeck.add("Joker2");
    }
}
```

*Output:*

```
Please Enter Number Of Cards To Deal
-3
Invalid entry, please enter a valid number
Please Enter Number Of Cards To Deal
1
[A♦]
Please Enter Number Of Cards To Deal
5
[4♠, 9♠, Q♠, 6❤, A❤]
Please Enter Number Of Cards To Deal
10
[5♠, A♠, Q♠, Q♦, 2♠, 4♦, Q❤, 4♠, 5❤, K❤]
Please Enter Number Of Cards To Deal
20
[4♦, 4♠, 2♦, 10♠, J❤, Q❤, 3❤, A♠, J♦, J♠, 7♦, Joker1, Q♠, A♠, 7❤, 4♠, 6♠,
Q♦, 5❤, 6❤]
Please Enter Number Of Cards To Deal
54
[7❤, 3♦, 3♠, K❤, 9♦, 7♠, 10❤, 3❤, J♠, 8♠, K♠, Joker1, 5♠, 6♠, 5❤, 2♦, 10♦,
Q♦, 9♠, A♦, 6♦, 8❤, 6❤, K♦, 8♠, J♦, 9♠, 5♦, A❤, Q♠, Q♠, J♠, 2❤, J❤, 10♠,
2♠, Joker2, 10♠, 8♦, Q❤, A♠, 7♠, 9❤, 4♠, K♠, 5♠, 4♦, 7♦, 3♠, 4❤, A♠, 2♠,
6♠, 4♠]
Please Enter Number Of Cards To Deal
55
Invalid entry, please enter a valid number
Please Enter Number Of Cards To Deal
0
```

Wordle game on following page

**Wordle Game:**

*Code:*

```
import java.util.*;

public class pt2wordle {
    public static void main(String[] args) {
        //Create game then run game
        Wordle game = new Wordle();
        game.run();
    }
}


class Wordle {
    //Member Variables
    private String[] wordOptions = {"ROBOT", "POINT", "FAVOR", "DRINK", "QUERY",
"SLUMP", "SIEGE", "BOOST", "SOLAR", "PROXY", "PAPER", "MAJOR"};
    String selected = "";

    //Setup Game
    public Wordle() {
        initialize();
    }

    //Run
    //Create loop that prompts user for word then finds out if that word is correct.
    //No parameter
    //Prints prompts and results from terminal
    public void run() {
        //Scanner to read input from stdin
        Scanner scanner = new Scanner(System.in);

        //loop to run until user quits game or gets correct answer
        while(true) {
            //Variables
            String userInput = "";
            String output = "";

            //Prompt user and read input
            System.out.println("Enter a 5 letter word:");
            userInput = scanner.nextLine();
            //If length of input is zero, quit game
            if (userInput.length() == 0) {
                break;
            //If length of input is 5, check word and do logic for determining how far
off word is
```

```
            } else if (userInput.length() == 5) {
                //uppercase user input
                userInput = userInput.toUpperCase();
                //Checks for right word entered
                if (userInput.equals(selected)) {
                    System.out.println("Congrats! You solved it!");
                    return;
                }
                //Wrong word entered. Figure out how wrong it is.
                for (int x = 0; x < 5; x++) {
                    if (userInput.charAt(x) == selected.charAt(x)) {
                        //Totally Right letter
                        output +=  " \"" + userInput.charAt(x) + "\" is a match in the
correct location\n";
                    } else if (selected.contains(
String.valueOf(userInput.charAt(x)))) {
                        //Right letter wrong place
                        output +=  " \"" + userInput.charAt(x) + "\" is in the word,
but in a different location\n";
                    } else {
                        //Wrong letter
                        output +=  " \"" + userInput.charAt(x) + "\" is not in the
word\n";
                    }
                }
                //output how wront the letter is
                System.out.println(output);
            } else {
                //invalid entry, prompt user with error
                System.out.println("Invalid entry. Please try again.");
            }
        }
    }

    //Initialize
    //Pick a random word
    //No Parameters
    //No Output
    public void initialize() {
        int random = (int) (Math.random() * 11.0);
        selected = wordOptions[random];
    }
}
```

*Output:*

```
Enter a 5 letter word:
aeiouy
Invalid entry. Please try again.
Enter a 5 letter word:
aeiou
 "A" is in the word, but in a different location
 "E" is not in the word
 "I" is not in the word
 "O" is a match in the correct location
 "U" is not in the word

Enter a 5 letter word:
favor
Congrats! You solved it!
```