IPO CHART

Program name:	[GameOf21 (CH7,E6)]	
INPUT	**PROCESS**	**OUTPUT**
Hint: What will the user input?	Hint: What is the program going to do with the input information?	Hint: What will the screen display after user input?

=== Welcome to 21 ===
 	
Your total: 0
Hit or Stand? (h/s): h
	public static GameOf21 dealCard()
	{
	return new GameOf21(); // value is random automatically
	}
	
	// Adds a card to a total, fixing Aces
	public static int addCardToTotal(int total, GameOf21 card, int aceCount[]) {
	total += card.getRawValue();
	
	// Count aces
	if (card.isAce()) {
	aceCount[0]++;
	}
	
	// If over 21, convert an Ace from 11 → 1 by subtracting 10
	while (total > 21 && aceCount[0] > 0) {
	total -= 10;
	aceCount[0]--;
	}
		You drew: Queen
		
		Your total: 10
		Hit or Stand? (h/s): s
		
		Computer's turn...
		Computer drew: 6
		Computer drew: Queen
		
		=== Final Totals ===
		Your total: 10
		Computer total: 16
		Computer wins!
		Do you want to play again? (y/n):n
		Thanks for playing!

```
        return total;
    }

    public static void
main(String[] args) {

        Scanner input = new
Scanner(System.in);
        Random rand = new
Random();

        boolean playAgain =
true;

        while (playAgain) {

        int userTotal = 0;
        int compTotal = 0;

        int[] userAces = {0};
// Keeps track of how many
usable Aces
        int[] compAces = {0};


System.out.println("===
Welcome to 21 ===");

        //USER TURN
        while (true) {

System.out.println("\nYour
total: " + userTotal);

System.out.print("Hit or
Stand? (h/s): ");
            String choice =
input.nextLine().toLowerCa
se();

            if
(choice.equals("h")) {
                    GameOf21
card = dealCard();

System.out.println("You
```

```
drew: " + card);

            userTotal =
addCardToTotal(userTotal,
card, userAces);

            if (userTotal >
21) {

System.out.println("You
bust!");
                break;
            }
        }
        else if
(choice.equals("s")) {
            break;
        }
        else {

System.out.println("Invalid
choice.");
        }
    }


    //COMPUTER TURN
    if (userTotal <= 21) {

System.out.println("\nCom
puter's turn...");

        while (compTotal <
16) {
                GameOf21
card = dealCard();

System.out.println("Compu
ter drew: " + card);

            compTotal =
addCardToTotal(compTotal
, card, compAces);
        }
    }
```

```
        //RESULTS

System.out.println("\n===
Final Totals ===");

System.out.println("Your
total: " + userTotal);

System.out.println("Compu
ter total: " + compTotal);

        if (userTotal > 21) {

System.out.println("Compu
ter wins!");
        } else if (compTotal >
21) {

System.out.println("You
win!");
        } else if (userTotal >
compTotal) {

System.out.println("You
win!");
        } else if (compTotal >
userTotal) {

System.out.println("Compu
ter wins!");
        } else {

System.out.println("It's a
tie!");
        }

    // Ask if you want to
play again
        System.out.print("Do
you want to play again?
(y/n): ");
        String answer =
input.next();

        if
```

	(!answer.equalsIgnoreCase("y")) {
	playAgain = false;
	
	System.out.println("Thanks for playing!");
	}
	
	}
	}
	}	