

Blackjack code

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February 18, 2016

This paper is about the blackjack code and how that works.



Figure 1: Blackjack.

WHAT IS BLACKJACK

Blackjack is a comparing card game between a player and dealer, It is played with one or more decks of 52 cards. The object of the game is to beat the dealer in one of the following ways:

- Get 21 points on the player's first two cards (called a blackjack), without a dealer blackjack
- Reach a final score higher than the dealer without exceeding 21
- Let the dealer draw additional cards until his or her hand exceeds 21.

this is the blackjack rule.

HERE IS THE BLACKJACK CODE.

```
import java.util.*;
import java.util.Scanner;

public class CardsC{
    static int count=52;

    public static int rand(int high){
        return (int) (high*Math.random()+1);
    }

    public static void shuffle(String[] the_deck, int switches){
```

first, we import two libraries outside thos code, which is very important here because without it we'll get errors.

the count represents the number of cards remaining in the deck

```

String temp;
int a; int b;
for(int i=0; i<switches; i++){
    a = rand(52);
    b = rand(52);
    temp = the_deck[a-1];
    the_deck[a-1] = the_deck[b-1];
    the_deck[b-1] = temp;
}
}

public static String deal(String[] the_deck){
    count=count-1;
    return the_deck[count];}

public static int aces(String the_card){
    if(the_card.charAt(0)=='A'){
        return 1;}
    else{
        return 0;}
    }

public static int aces(String[] the_hand){
    int sum=0;
    for(int i=0; i<the_hand.length;i++){
        sum = sum + aces(the_hand[i]);
    }
    return sum;
}

public static int aces(ArrayList the_hand){
    int sum=0;
    for(int i=0; i<the_hand.size();i++){
        sum = sum + aces(the_hand.get(i).toString());
    }
    return sum;
}

public static int value(String the_card){
    char first = the_card.charAt(0);
    if (first=='1'|first=='J'|first=='Q'|first=='K'){
        return 10;

```

created int a and in b, which will count the remainder of the cards and the card that had been distributed which will be changed later on

interger started at 0 and when it is smaller than switcher, it will add one to it self by one. and rand will give us random numbers between 1 to 52, and change its order in the orinal deck, aka shuffling

the program is chacking for ace ,if it is not ace, it will return zero back to the program

and it will count the sum and return it back to the program instead of printing it out

l,j,q,k are all equals ten and ace is eleven.

```

    }
    else if(first=='A'){
        return 11;}
    else{
        return Character.getNumericValue(first);
    }}
    public static int value(String[] the_hand){
        int sum=0;
        for(int i=0; i<the_hand.length;i++){
            sum = sum + value(the_hand[i]);
        }
        return sum;
    }

    public static int value(ArrayList the_hand){
        int sum=0;
        int num_aces=aces(the_hand);
        for(int i=0; i<the_hand.size();i++){
            sum = sum + value(the_hand.get(i).toString());
        }
        while(num_aces>0 && sum>21){
            sum=sum-10;
            num_aces=num_aces-1;
        }
        return sum;
    }

    public static void main(String[] args){

        Scanner scan = new Scanner(System.in);

        String[] deck = new String[52];
        String[] suit = new String[4];
        int[] card = new int[13];

        for (int i=0; i<card.length; i++){
            card[i]=i+1;}
        String cardName;

```

we assume that the first ace we got is eleven

it calculates the sum of the value in hand

according to rules, player and the dealer can count an ace as 1 point or 11 points, If a player holds an ace valued as 11, the hand is called "soft", meaning that the player cannot go bust by taking an additional card. so when there is a ace and player's sum is succeeding 21, we subtract ten from it, and it is basically changing ace's value from 11 to 1. we call this ace logic

```

suit[0] = "Clubs";
suit[1] = "Diamonds";
suit[2] = "Hearts" ;
suit[3] = "Spades";

for(int i=0; i<4; i++){
for(int j=0; j<13; j++){
if(j==0){cardName="Ace";}
else if(j==10){cardName="Jack";}
else if(j==11){cardName="Queen";}
else if(j==12){cardName="King";}
else {cardName=Integer.toString(card[j]);}
deck[ 13*i+j ]= cardName + "_" +suit[i];
}
}
shuffle(deck, 1000);

String say;
boolean state=true;

ArrayList hand = new ArrayList();
ArrayList dealer_hand = new ArrayList();
dealer_hand.add( deal(deck) );
dealer_hand.add( deal(deck) );
hand.add( deal(deck) );

while(state){

hand.add( deal(deck) );

System.out.println("Dealer showing: " + dealer_hand.get(1));
System.out.println("Contents of hand: " + hand);
System.out.println("Your score is: " + value(hand));

if(value(hand)>21){
System.out.println("BUST!!!!");
break;
}
}

```

set the cards into clubs, diamonds, hearts, and spades

just like normal blackjack game, we set Jack=10, Queen=11, King=12

if the card is not jack, queen or king, it will just be the interger

we are using the methods that we explained before to make it work

```

System.out.println( "hit[H] or stand[S]?");
say=scan.nextLine();
if(say.equals("H")){state=true;}
if(say.equals("S")){state=false;}
else{System.out.println("why the hell did you put this?!");}

while( value(dealer_hand)<17 ){
dealer_hand.add( deal(deck) );
}

System.out.println("Dealer has: " + dealer_hand);
System.out.println("Dealer score is: " + value(dealer_hand));

if( (value(hand)>value(dealer_hand) && value(hand)<22) |
(value(dealer_hand) > 21) ){
System.out.println( "YOU WIN !!!!");
}
else{System.out.println( "YOU LOSE. BOO !!!!");}

}
}

```

here we let the player choose to Hit or Stand

H for Hit, S for Stand, if the player put something other than H or S, it will print out this sentence

this will print out what dealer have and what is their score

and it compares what you have to what the dealer have



Figure 2: bets settled

after compile the code, the output will show you what your card is and what dealer have, base on that, you will choose whether hit or stand. if you win it will say "you win!!!!", if you loose it will say "you loose. boo!!!!".

```

> run CardsC
Dealer showing: 4_Diamonds
Contents of hand: [Jack_Clubs, Ace_Spades]
Your score is: 21
hit[H] or stand[S]?
S
Dealer has: [5_Spades, 4_Diamonds, 2_Diamonds, 6_Hearts]
Dealer score is: 17
YOU WIN !!!!
>|

```

Figure 3: result