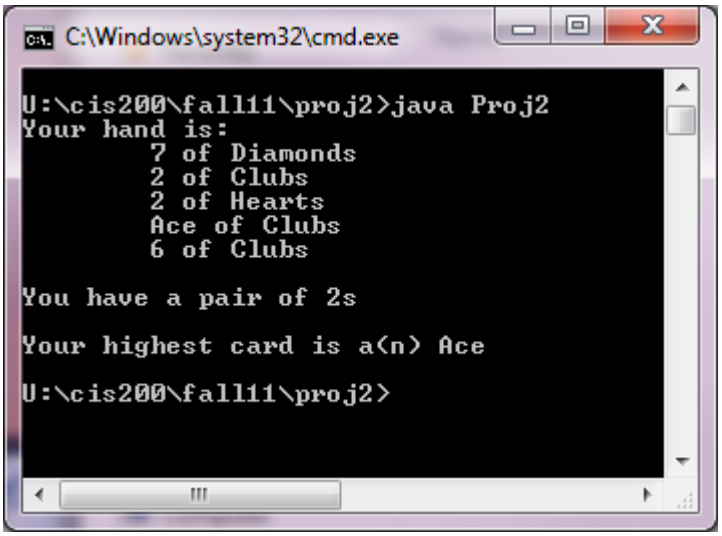
Project 2 (50 points)
Due Friday, September 9 by midnight

Assignment Description:
In this project, you will write a program that "deals" five random playing cards. Each card will have a *suit* (Spades, Clubs, Hearts, or Diamonds) and a *value* (2-10, Jack, Queen, King, or Ace). You should print the five cards, and then print whether there is a pair (two cards with the same value) as well as the highest card (with the cards being ordered from least to greatest as listed next to "value").

Here is an example of running the program:



Requirements
This program should contain a single class (called `Proj2`) with a `main` method. Your program must compile (by command-line) with the statement:

```
javac Proj2.java
```

It must then run with the command:

```
java Proj2
```

In this program, you will need to generate random numbers to simulate "drawing" cards. Here's an example:

```
//Do this once at the top of the file
import java.util.*;
```

```
//Do this once at the beginning of main
Random r = new Random();

//Do this every time you want to draw a card
int val = r.nextInt(4);
```

Now, `val` is randomly either 0, 1, 2, or 3 (NOT 4). Each time you draw a card, use this technique to generate a random suit (Spades, Clubs, Hearts, or Diamonds) and a random card value (2-10, Jack, Queen, King, or Ace).

Here are some additional requirements/tips:

- Assume that a bunch of card decks are being used – it's OK if you deal the same card multiple times (but if your random numbers are working, this shouldn't happen often)
- Your program should look EXACTLY like the example above when it runs (except, of course, for the values of the cards)
- If the hand has multiple pairs, you only need to print one of them
- If there are no pairs, print "`You have no pairs`"

Documentation:
At the top of every class, add the following comment block:

```
/**
 * (description of the class)
 *
 * Author: (your name)
 * Project: (which number project this is)
 */
```

Submission:
To submit your project, first create a folder called `proj2`, and move your `Proj2.java` file into that folder. Then, right-click on that folder and select "`Send To->Compressed (zipped) folder`". This will create the file `proj2.zip`.

Go to "`Files and Content->Modules->File Dropbox`" on K-State Online. Select your lab time and upload the `proj2.zip` file. **Put your name and Project 2 in the description box.**

Extra Credit:
You can earn 10 points of extra credit if you also classify the five cards according to the rules of poker. The classifications are: royal flush, straight flush, four of a kind, full house, flush, straight, three of a kind, two pairs, one pair, high card. You should print out the BEST classification for your poker hand.

The rest of your project must work (i.e., you must earn all 50 of the non-extra credit points) before you can receive any extra credit points.

Grading:
Programs that do not compile will receive a grade of 0. Programs that do compile will be graded according to the following point breakdown:

Requirement	Points
Randomly deal/print five cards	**15**
Correct calculation/printing of pairs	**15**
Correct calculation/printing of high card	**15**
Output exactly matches example	**3**
Documentation/naming/submission	**2**
Extra credit: classify as a poker hand	**10**
Total	**50**