Lab 8

For parts 1 through 3, you will need to use the Partner.java file from the class website (under the “Lab assignments” section). (Note: This is slightly different than the Partner.java posted in the “Code” section.)

**Part 1.** Currently, there are two partners (p1 and p2). Rewrite the code to use a single array variable instead of two separate Partner variables (p1 and p2).

**Part 2.** In main there is a System.out.println() line of code. Make a new method that displays the same information as this System.out.println() and call that method in main() instead. (Hint: Cut and paste the System.out.println() into a method and pass the correct argument.)

**Part 3.** Modify your main program to allow any number of partners (instead of just 2). Some sample code is provided below on how to start this part in the main() method.

**Sample main code:**
```java
int numberOfPartners = Partner.requestNumberOfPartners();
Partner[] partners = new Partner[numberOfPartners];
```

**Part 4.** Write a method to compare if two arrays (of type `char[]`) are exactly the same. The return type of your method should be `boolean`. Below is some sample code for the main() method (assuming you called your method `equalArrays()`). (Sample output on next page.)

**Sample main code:**
```java
char[] a = {'h', 'i'};
char[] b = {'s', 'u', 'p'};
char[] c = {'y', 'o'};
char[] d = {'h', 'i'};
if(equalArrays(a,b))
{
    System.out.println("a and b are equal");
}
if(equalArrays(a,c))
{
    System.out.println("a and c are equal");
}
if(equalArrays(a,d))
{
    System.out.println("a and d are equal");
}
```

**Output for part 4:**
a and d are equal
Part 5. We have been concatenating Strings together for a long time (e.g. "hello " + "world"). Write a method called append() that does concatenation for two char arrays (the return type should also be a char array). You may not use the String class for this part.

Sample main code:

```java
char[] first = {'I', ' ', 'a', 'm', ' '};
char[] second = {'d', 'o', 'n', 'e'};
System.out.println( append(first, second) );
```

Output for part 5:
I am done

Part 6 (Optional, extra credit points). Write a noRepeat() method that takes two char arrays as arguments. The noRepeat() method should first concatenate the char arrays (using part 5), then return a char array without any of the characters repeating (only the first time the character is encountered should it be in the array). Sample main code is provided below. Again you may not use the String class for this part.

Sample main code:

```java
char[] x = {'h', 'e', 'l', 'l', 'o', ' '};
char[] y = {'l', 'l', 'a', 'm', 'a'};
System.out.println( noRepeat(x, y) );
System.out.println( noRepeat(y, x) ); // There should be a space after the 'o'
// you can verify this by highlighting the output text in NetBeans
```

Output for part 6:

helo am
lamheo