

CSC 1750 Introduction to Algorithms
Fall 2009
Homework 8

1. Suppose s1, s2, s3, and s4 are four strings, given as follows:

```
String s1 = "Welcome to Java";
String s2 = s1;
String s3 = new String("Welcome to Java");
String s4 = s3.intern();
```

What are the results of the following expressions?

- a. s1 == s2
- b. s2 == s3
- c. s1.equals(s2)
- d. s2.equals(s3)
- e. s1.compareTo(s2)
- f. s2.compareTo(s3)
- g. s1 == s4
- h. s1.charAt(0)
- i. s1.indexOf('j')
- j. s1.indexOf("to")
- k. s1.lastIndexOf('a')
- l. s1.lastIndexOf("o", 15)
- m. s1.length()
- n. s1.substring(5)
- o. s1.substring(5,11)
- p. s1.startsWith("Wel")
- q. s1.endsWith("Java");
- r. s1.toLowerCase()
- s. s1.toUpperCase()
- t. " Welcome ".trim()
- u. s1.replace('o', 'T')
- v. s1.replaceAll("o", "T")
- w. s1.replaceFirst("o", "T")
- x. s1.toCharArray()

2. What is the printout of the following code? 8.3

```
String s1 = "Welcome to Java";
String s2 = s1.replace("o", "abc");
System.out.println(s1);
System.out.println(s2);
```

3. How do you determine whether a character is in lowercase or uppercase?
4. How do you check whether a file already exists? How do you delete a file? How do you rename a file? Can you find the file size (the number of bytes) using the File class?

5. How do you create a Scanner to read data from a file? What is the reason to declare throws Exception in the main method in Listing 8.7 in the textbook, ReadData.java? What would happen if the close() method were not invoked in Listing 8.7?