

CSCI 2310

Exam 1 Review Sheet

The exam is closed-book and closed-note. Exception you may bring one sheet of handwritten notes (normal sized paper). You may write notes on both the front and the back. Some of the things I would encourage you to include in your notes are operator precedence information and information on the String and Scanner methods. You may of course put whatever you wish in your notes.

Note also that you will need to bring your own paper on which to write your answers. Five pages should be more than adequate.

The exam focus is on applying the algorithmic and programming ideas we have studied. The material you are responsible for is based on what we've covered through section 3.2.

Specific Requirements

- Ability to evaluate mathematical and boolean expressions similar to those from homework 1.
- Ability to determine the result of method calls for String and Scanner objects (see samples on back)
- Ability to translate semantic specifications into basic Java statements or expressions. This includes algebraic specifications, data type conversions, and conditional execution specifications.
- Ability to trace the execution of Java code segments that use any of the language features in the material for which you are responsible.
- Ability to annotate code with properly specified comments.
- Ability to write a simple code segment that use variables of primitive types, String and/or Scanner objects, as part of output statements and branching flow of control.

Tips for Preparing

- Work and rework sample exercises and problems. If you understand the material well enough to write code to solve problems, you have a good understanding of the material. Form study groups and ask each other questions or else individually work on problems and compare solutions.
- Think about what notes you are going to put on your sheet. Focus on things you have a hard time remembering.
- Extra office hours are available on Wednesday the 23rd from 2:30 to 4:30 if you need them.
- Be well rested so that you can think clearly and read carefully.

Sample exercises with respect to String method calls on the back of the page.

Suppose we have the following declarations in Java.

```
String shortString = "sample string";  
String longString = "This is a sample of more symbols";  
String mixedString = "123!@# and letters";
```

You should assume in each of these strings where there is a space, there is exactly one space. For each of the following string method calls, specify what is returned (i.e., specify what value is produced as the result of the method call).

- a. `shortString.length()`
- b. `shortString.equals("sample");`
- c. `longString.equalsIgnoreCase("this Is a sample of more symbols");`
- d. `mixedString.charAt(2);`
- e. `shortString.substring(7);`
- f. `longString.substring(3,6);`
- g. `mixedString.indexOf("23");`
- h. `longString.indexOf("this");`
- i. `shortString.compareTo("abc");`
- j. `shortString.compareTo("xyz");`

Answers:

- a. 13
- b. false
- c. true
- d. '3'
- e. "string"
- f. "s i"
- g. 1
- h. -1
- i. positive number
- j. negative number