

Homework

The following homework is designed to cover the course objectives for this unit.

Homework Exercise 5.1

1. Research the ITT Tech Virtual Library or Internet to find the answers to these questions:
 - For any of the stream classes—reader, writer, input streams, and output streams—if you do not explicitly call the close() method to the stream, what process will eventually close the stream?
 - Is it possible to find the creation and last modified dates of a file using pure Java?
2. Cite your sources using Chicago Manual of Style format.
3. Submit your written answers to your instructor at the beginning of Unit 6.

Homework Exercise 5.2

Submit your written answers to the following 20 questions to your instructor at the beginning of Unit 6.

1. What is the output of the following code?

```
public class Test {  
    public static void main(String[] args) {  
        String s1 = new String("Welcome to Java!");  
        String s2 = s1.toUpperCase();  
  
        if (s1 == s2)  
            System.out.println("s1 and s2 reference to the same String object");  
        else if (s1.equals(s2))  
            System.out.println("s1 and s2 have the same contents");  
        else  
            System.out.println("s1 and s2 have different contents");  
    }  
}
```

- a. s1 and s2 reference to the same String object
- b. s1 and s2 have different contents
- c. s1 and s2 have the same contents

2. What will be the output of the following program?

```
public class Test {  
    public static void main(String[] args) {  
        String s = "Java";  
        StringBuffer buffer = new StringBuffer(s);  
        change(buffer);  
        System.out.println(buffer);  
    }  
  
    private static void change(StringBuffer buffer) {  
        buffer.append(" and HTML");  
    }  
}
```

- a. and HTML
 - b. nothing
 - c. Java
 - d. Java and HTML
3. What is displayed by the following statement?
- ```
System.out.println("Java is neat".replaceAll("is", "AAA"));
```
- a. Java AAA neat
  - b. JavaAAA neat
  - c. JavaAAAneat
  - d. Java AAAneat
4. Which of the following statements creates an instance of File on Window for the file c:\t.txt?
- a. new File("c:\txt.txt")
  - b. new File("c://txt.txt")
  - c. new File("c:\\txt.txt")
  - d. new File("c:/txt.txt")
5. Which code fragment would correctly identify the number of arguments passed through the command line to a Java application, excluding the name of the class that is being invoked?
- a. int count = 0; while (args[count] != null) count ++;
  - b. int count = args.length;
  - c. int count=0; while (!(args[count].equals(""))) count ++;
  - d. int count = args.length - 1;

6. Which of the following statements returns the last character in a StringBuffer variable named strBuf?
- a. StringBuffer.charAt(strBuf.length() - 1)
  - b. strBuf.charAt(strBuf.length() - 1)
  - c. StringBuffer.charAt(strBuf.capacity() - 1)
  - d. strBuf.charAt(strBuf.capacity() - 1)
7. What will be the output of the following program?

```
public class Test {
 public static void main(String[] args) {
 String s = "Java";
 StringBuffer buffer = new StringBuffer(s);
 change(s);
 System.out.println(s);
 }

 private static void change(String s) {
 s = s + " and HTML";
 }
}
```

- a. and HTML
  - b. Java and HTML
  - c. Java
  - d. Nothing is displayed
8. Suppose s is a string with the value "java." What will be assigned to x if you execute the following code?

```
char x = s.charAt(4);
```

- a. 'v'
- b. Nothing will be assigned to x because the execution causes the runtime error StringIndexOutOfBoundsException.
- c. 'a'

9. What is displayed by the following code?

```
public static void main(String[] args) throws Exception {
 String[] tokens = "Welcome to Java".split("o");
 for (int i = 0; i < tokens.length; i++) {
 System.out.print(tokens[i] + " ");
 }
}
```

- a. Welc me t Java
- b. Welc me to Java
- c. Welcome to Java
- d. Welcome t Java

10. Identify the problems in the following code:

```
public class Test {
 public static void main(String argv[]) {
 System.out.println("argv.length is " + argv.length);
 }
}
```

- a. If this program is run without passing any arguments, the program would display argv.length is 0.
- b. The program has a syntax error because String argv[] is wrong, and it should be replaced by String[] args.
- c. The program has a syntax error because String args[] is wrong, and it should be replaced by String args[].
- d. If this program is run without passing any arguments, the program would have a runtime error because argv is null.

11. Which method can be use to read a whole line from the file?

- a. next
- b. nextLine
- c. nextDouble
- d. nextInt

12. Assuming s is "ABCABC," the method \_\_\_\_\_ returns a new string "aBCaBC."

- a. s.toLowerCase(s)
- b. s.toLowerCase()
- c. s.replace("ABCABC", "aBCaBC")
- d. s.replace('A', 'a')
- e. s.replace('a', 'A')

13. Which method can be used to create an input object for file temp.txt?
- a. new Scanner("temp.txt")
  - b. new Scanner(File("temp.txt"))
  - c. new Scanner(temp.txt)
  - d. new Scanner(new File("temp.txt"))
14. How can you get the word "abc" in the main method from the following call?
- ```
java Test "+" 3 "abc" 2
```
- a. args[2]
 - b. args[1]
 - c. args[3]
 - d. args[0]
15. Which class contains the method for checking whether a file exists?
- a. PrintWriter
 - b. File
 - c. Scanner
 - d. System
16. Assuming s is "ABCABC," the method _____ returns an array of characters.
- a. s.toChars()
 - b. String.toCharArray()
 - c. s.toCharArray()
 - d. String.toChars()
 - e. toChars(s)
17. Which of the following returns the path separator character?
- a. File.pathSeparatorChar
 - b. File.pathSeparator
 - c. File.separator
 - d. File.separatorChar
18. Which class will you use to write data into a text file?
- a. PrintWriter
 - b. System
 - c. Scanner
 - d. File

19. Which class will you use to read data into a text file?
- a. PrintWriter
 - b. Scanner
 - c. File
 - d. System
20. Assuming StringBuffer strBuf is "ABCDEFGH," after invoking _____, strBuf contains "ABCRRRRDEFGH."
- a. strBuf.insert(3, "RRRR")
 - b. strBuf.insert(1, "RRRR")
 - c. strBuf.insert(2, "RRRR")
 - d. strBuf.insert(4, "RRRR")