

Chapter 11 CRT

1. Can data in memory be called a file? Explain.

- No. Data in memory is temporary and exists only while the program runs. A file is a collection of data stored permanently on a disk or storage device.

2. Write the import statement required to access the File Class in an application.

java

```
import java.io.File;
```

3. Identify the error in the following statement:

java

```
File textFile = new File("c:\inventory.txt");
```

The backslash must be escaped using double backslashes:

java

```
File textFile = new File("c:\\inventory.txt");
```

4. a) Which statement is used to write an exception handler?

A try-catch block is used to handle exceptions.

b) Write an exception handler to handle an IOException if a specified file name cannot be used:

java

```
try {  
    File file = new File("filename.txt");  
} catch (IOException e) {  
    System.out.println("Error: Cannot create the file.");  
}
```

5. a) What is the name of the stream for displaying error messages?

System.err

b) Where are these messages displayed?

They are shown in the standard error console or output window.

6. a) What does the file stream keep track of?

It keeps track of the current reading or writing position in the file.

b) What characters together make up a line terminator?

Carriage return and line feed characters ("\r\n").

7. **What two classes are used together to write data to a file?**
FileWriter and BufferedWriter work together for writing text data efficiently.
8. **Write a statement to convert account balances that have been read from a text file to a double value and add them to totalBalance.**

java

```
totalBalance += Double.parseDouble(accountBalanceString);
```

9. **Explain the difference between object serialization and object deserialization.**
Serialization converts an object into a stream of bytes for saving or sending, while deserialization rebuilds the object from this byte stream.
10. **What interface must be implemented if objects of a class are to be written to a file?**
The class must implement the Serializable interface.