

## **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.