```java
package ex7;

import java.io.*;

public class TestBufferedStreams {

    /** Main method
    @param args[0] for sourcefile
    @param args[1] for target file
     */
    public static void main(String[] args) throws IOException {
        // Check command-line parameter usage
        if (args.length != 2) {
            System.out.println(
                    "Usage: java CopyFile sourceFile targetfile");
            System.exit(0);
        }

        // Check if source file exists
        File sourceFile = new File(args[0]);
        if (!sourceFile.exists()) {
            System.out.println("Source file " + args[0] + " not exist");
            System.exit(0);
        }

        // Check if target file exists
        File targetFile = new File(args[1]);
        if (targetFile.exists()) {
            System.out.println("Target file " + args[1] + " already exists");
            System.exit(0);
        }

        // Create an input stream
        BufferedInputStream input = new BufferedInputStream(new
FileInputStream(sourceFile));

        // Create an output stream
        BufferedOutputStream output = new BufferedOutputStream(new
FileOutputStream(targetFile));

        // Display the file size
        System.out.println("The file " + args[0] + " has " + input.available() + "
bytes");

        // Continuously read a byte from input and write it to output
        int r;
        while ((r = input.read()) != -1) {
            output.write(r);
        }

        // Close streams
        input.close();
        output.close();

        System.out.println("Copy done!");
    }
}

```



```java
package ex7;

import java.io.*;

public class TestDataStreams {

    public static void main(String[] args) throws IOException {
        // Create an output stream for file temp.dat
        DataOutputStream output = new DataOutputStream(new
FileOutputStream("temp.dat"));

        // Write student test scores to the file
        output.writeUTF("John");
        output.writeDouble(85.5);
        output.writeUTF("Jim");
        output.writeDouble(185.5);
        output.writeUTF("George");
        output.writeDouble(105.25);

        // Close output stream
        output.close();

        // Create an input stream for file temp.dat
        DataInputStream input = new DataInputStream(new FileInputStream("temp.dat"));

        // Read student test scores from the file
        System.out.println(input.readUTF() + " " + input.readDouble());
        System.out.println(input.readUTF() + " " + input.readDouble());
        System.out.println(input.readUTF() + " " + input.readDouble());
    }
}

```

```java
package ex7;

import java.io.File;

public class TestFileClass {

    public static void main(String[] args) {
        File file = new File("image/us.gif");
        System.out.println("Absolute path is " + file.getAbsolutePath());
        System.out.println("Relative path is " + file.getPath());
        System.out.println("Last modified on " + new
java.util.Date(file.lastModified()));
        System.out.println("Does it exist? " + file.exists());
        System.out.println("Can it be read? " + file.canRead());
        System.out.println("Can it be written? " + file.canWrite());
        System.out.println("Is it a directory? " + file.isDirectory());
        System.out.println("Is it a file? " + file.isFile());
        System.out.println("Is it hidden? " + file.isHidden());
    }
}

```



```java
package ex7;

import java.io.FileReader;
import java.io.FileWriter;
import java.io.IOException;
import java.nio.charset.Charset;
import java.nio.charset.StandardCharsets;

/**
 *
 * @author vanting
 */
public class TestFileReaderWriter {

    public static void main(String[] args) throws IOException {

        System.out.println("Default Charsets: " + Charset.defaultCharset() );

        // Create an output stream to the file
        FileWriter output = new FileWriter("temp.txt");

        // Output some texts to the file
        output.write("Hello World!\n");
        output.write("Hello Java!\n");
        output.write("0123456789");

        // Close the output stream
        output.close();

        // Create an input stream for the file
        FileReader input = new FileReader("temp.txt");

        // Read values from the file
        int value;
        while ((value = input.read()) != -1) {
            System.out.print((char)value);
        }
        System.out.println("");
        // Close the output stream
        input.close();

        // ================================================== UTF-8

        // Create an output stream to the file
        FileWriter output2 = new FileWriter("temp.utf8.txt", StandardCharsets.UTF_8);

        // Output some texts to the file
        output2.write("Hello World!\n");
        output2.write("你好，世界!\n");

        // Close the output stream
        output2.close();

        // Create an input stream for the file
        FileReader input2 = new FileReader("temp.utf8.txt", StandardCharsets.UTF_8);

        // Read values from the file
        while ((value = input2.read()) != -1) {
            System.out.print((char)value);
```

```
        }

        // Close the output stream
        input2.close();
    }

}

```



```
package ex7;

import java.io.*;

public class TestFileStreams {

    public static void main(String[] args) throws IOException {
        // Create an output stream to the file
        FileOutputStream output = new FileOutputStream("temp.dat");

        // Output values to the file
        for (int i = 1; i <= 10; i++) {
            output.write(i);
        }

        // Close the output stream
        output.close();

        // Create an input stream for the file
        FileInputStream input = new FileInputStream("temp.dat");

        // Read values from the file
        int value;
        while ((value = input.read()) != -1) {
            System.out.print(value + " ");
        }

        // Close the output stream
        input.close();
    }
}

```

```java
package ex7;

import java.io.*;
import java.util.Date;

public class TestObjectStreams {

    public static void main(String[] args) throws ClassNotFoundException, IOException
{

        ObjectOutputStream output = new ObjectOutputStream(new
FileOutputStream("object.dat"));

        // Write a string, double value, and object to the file
        output.writeUTF("John");
        output.writeDouble(85.5);
        output.writeObject(new Date());

        // Close output stream
        output.close();

        // Create an input stream for file object.dat
        ObjectInputStream input = new ObjectInputStream(new
FileInputStream("object.dat"));

        // Write a string, double value, and object to the file
        String name = input.readUTF();
        double score = input.readDouble();
        Date date = (Date) (input.readObject());
        System.out.println(name + " " + score + " " + date);

        // Close output stream
        input.close();
    }
}

```



```java
package ex7;

import java.io.*;

public class TestRandomAccessFile {

    public static void main(String[] args) throws IOException {
        // Create a random access file
        RandomAccessFile inout = new RandomAccessFile("inout.dat", "rw");

        // Clear the file to destroy the old contents if exists
        inout.setLength(0);

        // Write new integers to the file
        for (int i = 0; i < 200; i++) {
            inout.writeInt(i);
        }

        // Display the current length of the file
        System.out.println("Current file length is " + inout.length());

        // Retrieve the first number
        inout.seek(0); // Move the file pointer to the beginning
        System.out.println("The first number is " + inout.readInt());

        // Retrieve the second number
        inout.seek(1 * 4); // Move the file pointer to the second number
        System.out.println("The second number is " + inout.readInt());

        // Retrieve the tenth number
        inout.seek(9 * 4); // Move the file pointer to the tenth number
        System.out.println("The tenth number is " + inout.readInt());

        // Modify the eleventh number
        inout.writeInt(555);

        // Append a new number
        inout.seek(inout.length()); // Move the file pointer to the end
        inout.writeInt(999);

        // Display the new length
        System.out.println("The new length is " + inout.length());

        // Retrieve the new eleventh number
        inout.seek(10 * 4); // Move the file pointer to the eleventh number
        System.out.println("The eleventh number is " + inout.readInt());

        inout.close();
    }
}

```