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/* BinaryFileMaker.java
 *
 * This program demonstrates creation of a sequential binary file. The
 * user is prompted via a file dialog to specify the name of a file to be
 * created, and then is prompted via a dialog box to specify a boolean,
 * char, byte, short, int, long, float, double, and String to be written
 * to the file. Each value is written to the file. (In the case of the
 * String, its length is first written as an int.
 *
 * The resultant file can be read back using BinaryFileAccessor.java
 *
 * Copyright (c) 2000, 2004 - Russell C. Bjork
 */
import java.io.*;
import javax.swing.*;

public class BinaryFileMaker
{
    public static void main(String [] args) throws IOException
    {
        // Create the file
        File filename;
        JFileChooser chooser = new JFileChooser(System.getProperty("user.dir"));
        if (chooser.showSaveDialog(null) == JFileChooser.APPROVE_OPTION)
            filename = chooser.getSelectedFile();
        else
            return;

        DataOutputStream output = new DataOutputStream(
            new FileOutputStream(filename));

        // Get the values to write from the user and convert to appropriate types
        String [] inputLabels = { "Boolean", "Char", "Byte", "Short",
            "Int", "Long", "Float", "Double", "String" };

        String [] valuesToWrite = MultiInputPane.showMultiInputDialog(
            null, inputLabels, "Values to write");

        boolean booleanValue = (new Boolean(valuesToWrite[0])).booleanValue();
        char charValue = valuesToWrite[1].charAt(0);
        byte byteValue = (new Byte(valuesToWrite[2])).byteValue();
        short shortValue = (new Short(valuesToWrite[3])).shortValue();
        int intValue = (new Integer(valuesToWrite[4])).intValue();
        long longValue = (new Long(valuesToWrite[5])).longValue();
        float floatValue = (new Float(valuesToWrite[6])).floatValue();
        double doubleValue = (new Double(valuesToWrite[7])).doubleValue();
        String stringValue = valuesToWrite[8];

        // Write the values to the file
        output.writeBoolean(booleanValue);
        output.writeChar(charValue);
        output.writeByte(byteValue);
        output.writeShort(shortValue);
        output.writeInt(intValue);
        output.writeLong(longValue);
        output.writeFloat(floatValue);
        output.writeDouble(doubleValue);
        output.writeInt(stringValue.length());
        output.writeChars(stringValue);

        // Close the file and we're done
        output.close();
        System.exit(0);
    }
}

```

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/*
 * BinaryFileAccessor.java
 *
 * This program reads back the file created by BinaryFileMaker.java. See
 * that program for a description of the file
 *
 * Copyright (c) 2000, 2004 - Russell C. Bjork
 *
 */

import java.io.*;
import javax.swing.*;

public class BinaryFileAccessor
{
    public static void main(String [] args) throws IOException
    {
        // Open the file

        File filename;
        JFileChooser chooser = new JFileChooser(System.getProperty("user.dir"));
        if (chooser.showOpenDialog(null) == JFileChooser.APPROVE_OPTION)
        {
            filename = chooser.getSelectedFile();
        }
        else
            return;

        DataInputStream input = new DataInputStream(
            new FileInputStream(filename));

        // Read the values from the file

        boolean booleanValue = input.readBoolean();
        char charValue = input.readChar();
        byte byteValue = input.readByte();
        short shortValue = input.readShort();
        int intValue = input.readInt();
        long longValue = input.readLong();
        float floatValue = input.readFloat();
        double doubleValue = input.readDouble();
        int stringLength = input.readInt();
        String stringValue = "";
        for (int i = 0; i < stringLength; i++)
            stringValue += input.readChar();

        // Write out what we read

        System.out.println(booleanValue);
        System.out.println(charValue);
        System.out.println(byteValue);
        System.out.println(shortValue);
        System.out.println(intValue);
        System.out.println(longValue);
        System.out.println(floatValue);
        System.out.println(doubleValue);
        System.out.println(stringValue);

        // Close the file and we're done

        input.close();
        System.exit(0);
    }
}

```

```

/* TextFileMaker.java
 *
 * This program demonstrates creation of a sequential text file. The
 * user is prompted via a file chooser to specify the name of a file to be
 * created, and then is prompted via a dialog box to specify a boolean,
 * char, byte, short, int, long, float, double, and String to be written
 * to the file. Each value is written to the file as a single line.
 *
 * The resultant file can be read back using TextFileAccessor.java
 *
 * Copyright (c) 2000 - Russell C. Bjork
 *
 */
import java.io.*;
import javax.swing.*;

public class TextFileMaker
{
    public static void main(String [] args) throws IOException
    {
        // Create the file
        File filename;
        JFileChooser chooser = new JFileChooser(System.getProperty("user.dir"));
        if (chooser.showSaveDialog(null) == JFileChooser.APPROVE_OPTION)
            filename = chooser.getSelectedFile();
        else
            return;

        PrintWriter output = new PrintWriter(new FileWriter(filename));
        // Get the values to write from the user and convert to appropriate
        // types
        String [] inputLabels = { "Boolean", "Char", "Byte", "Short",
                                   "Int", "Long", "Float", "Double", "String" };

        String [] valuesToWrite = MultiInputPane.showMultiInputDialog(
            null, inputLabels, "Values to write");

        boolean booleanValue = (new Boolean(valuesToWrite[0])).booleanValue();
        char charValue = valuesToWrite[1].charAt(0);
        byte byteValue = (new Byte(valuesToWrite[2])).byteValue();
        short shortValue = (new Short(valuesToWrite[3])).shortValue();
        int intValue = (new Integer(valuesToWrite[4])).intValue();
        long longValue = (new Long(valuesToWrite[5])).longValue();
        float floatValue = (new Float(valuesToWrite[6])).floatValue();
        double doubleValue = (new Double(valuesToWrite[7])).doubleValue();
        String stringValue = valuesToWrite[8];

        // Write the values to the file
        output.println(booleanValue);
        output.println(charValue);
        output.println(byteValue);
        output.println(shortValue);
        output.println(intValue);
        output.println(longValue);
        output.println(floatValue);
        output.println(doubleValue);
        output.println(stringValue);

        // Close the file and we're done
        output.close();
        System.exit(0);
    }
}

```

```

/*
 * TextFileAccessor.java
 *
 * This program reads back the file created by TextFileMaker.java. See
 * that program for a description of the file
 *
 * Copyright (c) 2000 - Russell C. Bjork
 *
 */

import java.io.*;
import javax.swing.*;

public class TextFileAccessor
{
    public static void main(String [] args) throws IOException
    {
        // Open the file

        File filename;
        JFileChooser chooser = new JFileChooser(System.getProperty("user.dir"));
        if (chooser.showOpenDialog(null) == JFileChooser.APPROVE_OPTION)
        {
            filename = chooser.getSelectedFile();
        }
        else
            return;

        BufferedReader input = new BufferedReader(new FileReader(filename));

        // Read the values from the file

        boolean booleanValue = (new Boolean(input.readLine())).booleanValue();
        char charValue = input.readLine().charAt(0);
        byte byteValue = (new Byte(input.readLine())).byteValue();
        short shortValue = (new Short(input.readLine())).shortValue();
        int intValue = (new Integer(input.readLine())).intValue();
        long longValue = (new Long(input.readLine())).longValue();
        float floatValue = (new Float(input.readLine())).floatValue();
        double doubleValue = (new Double(input.readLine())).doubleValue();
        String stringValue = input.readLine();

        // Write out what we read

        System.out.println(booleanValue);
        System.out.println(charValue);
        System.out.println(byteValue);
        System.out.println(shortValue);
        System.out.println(intValue);
        System.out.println(longValue);
        System.out.println(floatValue);
        System.out.println(doubleValue);
        System.out.println(stringValue);

        // Close the file and we're done

        input.close();
        System.exit(0);
    }
}

```

```

/* RandomFileAccessor.java
 *
 * This program reads back a value from a user-specified position in the file
 * created by BinaryFileMaker.java, and displays it as all possible data types.
 * See that program for a description of the file
 *
 * Copyright (c) 2000, 2004 - Russell C. Bjork
 */
import java.io.*;
import javax.swing.*;

public class RandomFileAccessor
{
    public static void main(String [] args) throws IOException
    {
        // Open the file
        File filename;
        JFileChooser chooser = new JFileChooser(System.getProperty("user.dir"));
        if (chooser.showOpenDialog(null) == JFileChooser.APPROVE_OPTION)
            filename = chooser.getSelectedFile();
        else
            return;

        RandomAccessFile input = new RandomAccessFile(filename, "r");

        do
        {
            // Get the position in the file
            String positionString = JOptionPane.showInputDialog(
                "Position (cancel to quit): ");
            if (positionString == null)
                break; // Exit loop when null is entered
            long position = Long.parseLong(positionString);

            // Read the values from the file
            input.seek(position); boolean booleanValue = input.readBoolean();
            input.seek(position); char charValue = input.readChar();
            input.seek(position); byte byteValue = input.readByte();
            input.seek(position); short shortValue = input.readShort();
            input.seek(position); int intValue = input.readInt();
            input.seek(position); long longValue = input.readLong();
            input.seek(position); float floatValue = input.readFloat();
            input.seek(position); double doubleValue = input.readDouble();
            // Don't try the string
            // Write out what we read
            System.out.println();
            System.out.println("Values read as various types at position " + position);
            System.out.println("boolean: " + booleanValue);
            System.out.println("char: " + charValue);
            System.out.println("byte: " + byteValue);
            System.out.println("short: " + shortValue);
            System.out.println("int: " + intValue);
            System.out.println("long: " + longValue);
            System.out.println("float: " + floatValue);
            System.out.println("double: " + doubleValue);
        }
        while(true); // Loop is mid-exit
        // Close the file and we're done
        input.close();
        System.exit(0);
    }
}

```