```
// joi/3/textfiles/TextFile.java
//
//
// Copyright 2003 Bill Campbell and Ethan Bolker

import java.util.Date;

/**
 * A TextFile mimics the sort of text file that one finds
 * on a computer's file system.  It has an owner,
 * a create date (when the file was created),
 * a modification date (when the file was last modified),
 * and String contents.
 *
 * @version 3
 */

public class TextFile
{
    // Private Implementation

    private String owner;       // Who owns the file.
    private Date   createDate;  // When the file was created.
    private Date   modDate;     // When the file was last modified.
    private String contents;    // The text stored in the file.

    // Public Interface

    /**
     * Construct a new TextFile with given owner and
     * contents; set the creation and modification dates.
     *
     * @param owner the user who owns the file.
     * @param contents the file's initial contents.
     */

    public TextFile( String owner, String contents )
    {
        this.owner    = owner;
        this.contents = contents;
        createDate    = new Date(); // date and time now
        modDate       = createDate;
    }

    /**
     * Replace the contents of the file.
     *
     * @param contents the new contents.
     */

    public void setContents( String contents )
    {
        this.contents = contents;
        modDate = new Date();
    }

```



```
    /**
     * The contents of a file.
     *
     * @return String contents of the file.
     */

    public String getContents()
    {
        return contents;
    }

    /**
     * Append text to the end of the file.
     *
     * @param  text the text to be appended.
     */

    public void append( String text )
    {
        this.setContents( contents + text );
    }

    /**
     * Append a new line of text to the end of the file.
     *
     * @param  text the text to be appended.
     */

    public void appendLine( String text )
    {
        this.setContents(contents + '\n' + text);
    }

    /**
     * The size of a file.
     *
     * @return the integer size of the file
     *  (the number of characters in its String contents)
     */

    public int getSize()
    {
        int charCount;
        charCount = contents.length();
        return charCount;
    }

    /**
     * The data and time of the file's creation.
     *
     * @return the file's creation date and time.
     */

    public String getCreateDate()
    {
        return createDate.toString();
```

```
   }

   /**
    * The date and time of the file's last modification.
    *
    * @return the date and time of the file's last modification.
    */

   public String getModDate()
   {
       return modDate.toString();
   }

   /**
    * The file's owner.
    *
    * @return the owner of the file.
    */

   public String getOwner()
   {
       return owner;
   }

   /**
    * A definition of main(), used only for testing this class.
    *
    * Executing
    * <pre>
    *     %> java TextFile
    * </pre>
    * produces the output:
    * <pre>
    * TextFile myTextFile contains 13 characters.
    * Created by bill, Sat Dec 29 14:02:37 EST 2001
    * Hello, world.
    *
    * append new line "How are you today?"
    * Hello, world.
    * How are you today?
    * TextFile myTextFile contains 32 characters.
    * Modified Sat Dec 29 14:02:38 EST 2001
    * </pre>
    */

   public static void main( String[] args )
   {
       Terminal terminal = new Terminal();
       TextFile myTextFile = new TextFile( "bill", "Hello, world." );

       terminal.println( "TextFile myTextFile contains " +
                         myTextFile.getSize() + " characters.");
       terminal.println( "Created by " +  myTextFile.getOwner() +
                         ", " +
                         myTextFile.getCreateDate() );
       terminal.println( myTextFile.getContents() );
```



```
       terminal.println();

       terminal.println( "append new line \"How are you today?\"" );
       myTextFile.appendLine( "How are you today?" );
       terminal.println( myTextFile.getContents() );
       terminal.println( "TextFile myTextFile contains " +
                         myTextFile.getSize() + " characters." );
       terminal.println( "Modified "  +
                         myTextFile.getModDate() );
   }
}
```