Laboratory Exercise 7

Patterns and framework

1. The following class conducts a dialog via a dialog box. Analyse and run the program. You may add comments for each statement.

```
import javax.swing.*;

class dialog1 {
 public static void main (String [] sqark) {
  String name, says;

  name=JOptionPane.showInputDialog("What is your name?");
  says=JOptionPane.showInputDialog("Which course do you like?");

  JOptionPane.showMessageDialog(null,name+" likes "+says);
  System.exit(0); // Stops the program running?
 } // end main
} // end dialog1
```

2. Using the GUI structure above, write a class which takes two numbers and returns the sum.

3. The following class displays a text window with pieces of message. Analyse and run the program. You may add comments for each statement.

```
import javax.swing.*;

class text1 {
  public static void main(String [] xxx) {
    JTextArea myText = new JTextArea(10,20);

    myText.append("Line 1 by 1st 'append' \n\n");
    myText.append("Line 2 by 2nd 'append' \n\n\n");
    myText.append("xxxx \n\n\n yyyy - the third!");

    JOptionPane.showMessageDialog(null,myText);
    System.exit(0);
  } // end main
} // end text1
```

4. Write a class table which takes an integer n and displays a $n \times n$ multiplication table, using similar GUI approach to the above to handle the input and the output.

5. Analyse the following class which is an applet converted from the application text1.java above. The comments show the statements before the conversion (in text1.java) and the number after ... is the step number on page 109 of the lecture notes "Converting an application to an applet" quoted below:

```
Converting an application to an applet
```

```
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1 Check that all input/output relevant statements
2 Remove stopping statements
3 Overriding flow layout
4 Import applet package and extend Applet instead of Frame
5 Replace the class' constructor
6 Remove the main method
7 Refer to the applets' class file in a HTML file
8 Run the HTML file through an applet viewer or through a Web browser,
e.g. HotJava, Netscape, Mosaic or Explorer.
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// import javax.swing.JApplet;  ... already included
import javax.swing.*;

// class text1 {          ... 5.
public class appletText1 extends JApplet {
  // public static void main(String [] xxx) {   ... 6.
  public void init() {
    JTextArea myText = new JTextArea(10,20);

    myText.append("Line 1 by 1st 'append' \n\n");
    myText.append("Line 2 by 2nd 'append' \n\n\n");
    myText.append("xxxx \n\n\n yyyy - the third!");

    JOptionPane.showMessageDialog(null,myText);
    // System.exit(0);    ... 2.
  // } // end main     ... 6.
  } // end main
} // end appletText1
```

6. Following the above, analyse the following .html file. Save it to a file `file-name.html` and run it through appletviwer. (using `appletviewer xxx.html`). Note: you need to make sure there is a class `appletText1.class` in the same directory.

```
<html>
<applet code="appletText1.class" width=300 height=200></applet>
</html>
```

7. Convert the application dialog1.java using a similar approach above.