

**Name:** \_\_\_\_\_  
please type or print your name

## EE-WEB Exam No. 2 (100pts.)

### *General Remarks*

Do not use back of the pages for answers. The back side of this test will not be graded. Attach more pages if necessary. Open books, open handwritten and printed notes. Sorry no computers.

**DL: \_\_ ERR: \_\_ PTS: \_\_ WTL: \_\_**

**Problem 1 (20pts.)**

The following small program is written as an applet and is intended for embedding in a Web page. Please modify it so that it could also run as an application. The application should display a frame entitled "My Frame" 100 pixel high and 200 pixel wide, and should shut down the program when user attempts to close the frame.

```
import java.awt.*;
import java.awt.event.*;
import java.applet.Applet;

// <applet code="Test.class" height="100" width="200"> </applet>

public class Test extends Applet
{
    public void init() {
        add(new Button("Do Nothing"));
    }

    public void start() {

    }

    public void paint(Graphics g) {

    }

    public void stop() {

    }

}
```

**Problem 2 (20pts.)**

The following small program is written as an applet and is intended only for embedding in a Web page. However, it is not complete. Please complete it so that it responds to buttons. When the button B1 is clicked the text should be copied from the text field TF1 to TF2. When button B2 is clicked then the text should be copied from TF2 to TF1. Utilize as many existing functions as possible. Do not worry about converting this program to an application.

```
import java.awt.*;
import java.awt.event.*;
import java.applet.Applet;

// <applet code="Test.class" height="100" width="200"> </applet>

public class Test extends Applet
{
    Button    B1 = null;
    Button    B2 = null;
    TextField TF1 = null;
    TextField TF2 = null;

    public void init() {
        TF1 = new TextField(10);
        B1 = new Button("->");
        B2 = new Button("<-");
        TF2 = new TextField(10);
        add(TF1);
        add(B1);
        add(B2);
        add(TF2);

    }

}
```

**Problem 3 (20pts.)**

The following small program is written as an applet and is intended only for embedding in a Web page. The problem focuses on layouts. For your convenience, only the relevant portion of the program is provided. Please complete the `init()` function by defining and setting appropriate layout and placing the provided buttons so that the result as provided in the figure is achieved. You may have to use a Panel to complete the job without using a `GridBagLayout`. (`GridBagLayout` may be too complicated to use during this exam.)

1	2	
3	4	5

```
import java.awt.*;
import java.awt.event.*;
import java.awt.image.*;
import java.applet.Applet;

// <applet code="Test.class" height="100" width="200"> </applet>

public class Test extends Applet {

    Button B1 = null;
    Button B2 = null;
    Button B3 = null;
    Button B4 = null;
    Button B5 = null;

    public void init() {
        B1 = new Button("1");
        B2 = new Button("2");
        B3 = new Button("3");
        B4 = new Button("4");
        B5 = new Button("5");

    }
}
```

**Problem 4 (20pts.)**

Complete the following console program so that it opens a socket that connects to the port 79 of a user specified remote system. Then an empty line is sent out (remember to flush the stream) and then multiple incoming lines are read and displayed on screen until the remote site closes connection.

```
import java.io.InputStreamReader;
import java.io.BufferedReader;
import java.io.IOException;
import java.io.PrintWriter;
import java.net.Socket;

// <applet code="Test.class" height="100" width="200"> </applet>

public class Test {
    static final int fingerport=79;
    public static void main (String A[]) {
        BufferedReader CIN=new BufferedReader(new InputStreamReader(System.in));
        try {
            System.out.print("Please enter the host name to finger: ");
            String addr=CIN.readLine();
            System.out.println("Connecting to "+addr+" to port "+fingerport);

            Socket S=new Socket(addr,fingerport);
            PrintWriter P=new PrintWriter(S.getOutputStream());
            P.println();
            P.flush();
            BufferedReader R=new BufferedReader(S.getInputStream());
            String line;
            while ((line=R.readLine()) != null)
                System.out.println(line);
            System.out.println("Connection closed by the remote host");
        } catch (Exception e) {
            System.out.println("An error was encountered: "+e);
        }
    }
}
```

**Problem 5 (20pts.)**

The following small program is written as an applet and is intended only for embedding in a Web page. Please complete the program so that the button changes color between red and blue every 100 milliseconds. You must conserve the CPU power – use threads. Make sure that the thread starts and stops correctly when the applet is displayed and gone.

```
import java.awt.*;
import java.applet.Applet;
import java.awt.event.WindowEvent;
import java.awt.event.WindowListener;

// <applet code="Test.class" height="100" width="200"> </applet>

public class Test extends Applet
{
    Thread T = null;
    Button B = null;

    public void init() {
        B = new Button(" ");
        add(B);
    }

    public void start() {

    }

    public void stop() {

    }

}
```