

Name: _____
please type or print your name

EE-WBC 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 notes but no sharing allowed. No electronic equipment allowed during the exam, including cell phones.

DL: __ ERR: __ PTS: __ WTL: __ GR: __

Problem 1 (20pts.)

Complete the implementation of the HTTP-based Date and Time server that runs on port 8088. When a Web browser connects to it, the browser should receive a complete valid HTML 4.0 Web page with current date and time on the server computer. The server should not print any unnecessary (debug) information to the console (exception reports should be printed though).

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

class Test {
    static final int port = 8088;
    static final int maxque = 10;

    public static void main(String A[])
    {
        try {
            ServerSocket SERV= new ServerSocket(port, maxque);
            System.out.println("Test HTTP Date and Time server server started at port "+port);

            while (true)
                try {
                    Socket SO=SERV.accept();
                    BufferedReader SR=new BufferedReader(new InputStreamReader(SO.getInputStream()));
                    PrintWriter SW=new PrintWriter (SO.getOutputStream());

                    SW.flush();
                    SO.close();
                } catch (Exception e) {
                    System.out.println("Error while handling a client! "+e);
                }
            } catch (Exception e) {
                System.out.println("Fatal Error! "+e);
            }
            System.out.println("The server terminated!");
        }
    }
}
```



Problem 2 (20pts.)

Please write the exact sequence of commands (and approximate replies from the server marked with ">") that are required to log in to a POP3 server and determine how many messages are on the server. After determining the number of messages log out gracefully for the server. Assume that the server answers affirmative (login accepted, no error messages) to each of your inquiry. You need to write only the sequence of line exchanges and not the program to open the connection and perform it and/or check for errors.

Write your dialog with the server here:

Problem 4 (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. Do not use `GridBagLayout`.

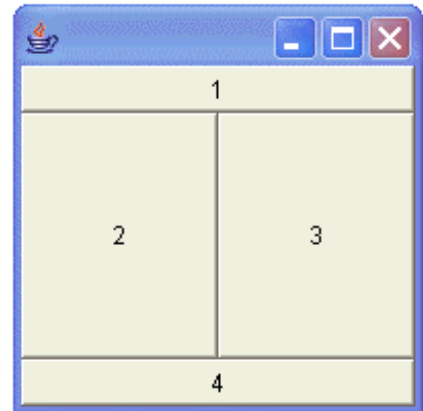
```
import java.awt.*;  
import java.awt.event.*;  
import java.awt.image.*;  
import java.applet.Applet;
```

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

```
public class Test extends Applet {
```

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

```
    public void init() {  
        B1 = new Button("1");  
        B2 = new Button("2");  
        B3 = new Button("3");  
        B4 = new Button("4");  
        Panel P = new Panel();
```



```
    }  
}
```

Problem 5 (20pts.)

Write a GUI applet that performs unit conversion between Fahrenheit and Centigrade. The view of the GUI interface (already provided) is displayed below. Both text fields should be green as long as data is entered in correct format and can be parsed as integers. If there is an input problem, make background of the TextField in question red, and the background of the opposite field in yellow. The conversion formula is $C=(F-32)*5/9$. Operate on integers, or truncate the final result to integers whatever ensures the correct functionality. Prevent event oscillation that was demonstrated in the class.

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

public class Test extends Applet implements TextListener {

    TextField    leftV, riteV;
    Boolean      enabled;

    public void init() {
        leftV=new TextField("", 10);
        leftV.addTextListener(this);
        riteV=new TextField("", 10);
        riteV.addTextListener(this);
        setLayout(new FlowLayout());
        add(leftV);
        add(new Label("F"));
        add(riteV);
        add(new Label("C"));
    }

    // INTERFACE TextListener and functionality -----
}
```

