

1.# Generate a random number between 1 and 100

```
package helloworld;
```

```
//package helloworld;
```

```
import java.util.Random;
```

```
import javax.swing.JOptionPane;
```

```
public class Hello extends Thread {
```

```
    public static void main(String[] args) {
```

```
        // Generate a random number between 1 and 100
```

```
        Random random = new Random();
```

```
        int generatedNumber = random.nextInt(100) + 1;
```

```
        // Set the number of attempts
```

```
        int maxAttempts = 5;
```

```
        int attempts = 0;
```

```
        int score = 0;
```

```
        // Game loop
```

```
        while (attempts < maxAttempts) {
```

```
            // Prompt the user to enter a guess
```

```
            String userInput = JOptionPane.showInputDialog("Guess a number between 1 and 100:");
```

```
            // Check if the user input is valid
```

```
            if (userInput == null) {
```

```
                // User canceled the dialog
```

```
                break;
```

```
            }
```

```

int userGuess;

try {
    userGuess = Integer.parseInt(userInput);
} catch (NumberFormatException e) {
    // Invalid input, prompt the user again
    JOptionPane.showMessageDialog(null, "Invalid input. Please enter a number.");
    continue;
}

// Increment the attempt count
attempts++;

// Check the user's guess
if (userGuess == generatedNumber) {
    // Correct guess
    JOptionPane.showMessageDialog(null, "Congratulations! You guessed the number in " +
attempts + " attempts.");
    score = maxAttempts - attempts + 1;
    JOptionPane.showMessageDialog(null, "Your score is: " + score);
    break;
} else if (userGuess < generatedNumber) {
    JOptionPane.showMessageDialog(null, "Your guess is lower than the number. Try again.");
} else {
    JOptionPane.showMessageDialog(null, "Your guess is higher than the number. Try again.");
}
}

if (attempts == maxAttempts) {
    JOptionPane.showMessageDialog(null, "Sorry, you've reached the maximum number of
attempts. The number was " + generatedNumber + ".");
}
}

```

```

}

# library management system

2. import javax.swing.*;

import java.awt.*;

import java.awt.event.ActionEvent;

import java.awt.event.ActionListener;

class Login extends JFrame implements ActionListener {

    JButton submitButton;

    JPanel panel;

    JLabel userLabel, passLabel;

    final JTextField usernameField, passwordField;

    Login() {

        userLabel = new JLabel();

        userLabel.setText(" Username :");

        usernameField = new JTextField(15);

        passLabel = new JLabel();

        passLabel.setText(" Password :");

        passwordField = new JPasswordField(8);

        submitButton = new JButton(" SUBMIT ");

        panel = new JPanel(new GridLayout(3, 1));

        panel.add(userLabel);

        panel.add(usernameField);

        panel.add(passLabel);

        panel.add(passwordField);

        panel.add(submitButton);

        add(panel, BorderLayout.CENTER);

        submitButton.addActionListener(this);

        setTitle("Login Form ");

    }

```

```

public void actionPerformed(ActionEvent ae) {
    String usernameValue = usernameField.getText();
    String passwordValue = passwordField.getText();
    if (!passwordValue.equals(""))
        new OnlineTestBegin(usernameValue);
    else {
        passwordField.setText("Enter Password");
        //actionPerformed(ae); // Commented out to avoid infinite loop
    }
}
}

```

```

class OnlineTestBegin extends JFrame implements ActionListener {

```

```

    JLabel label;
    JButton saveNextButton, saveLaterButton;
    JRadioButton[] options = new JRadioButton[6];
    ButtonGroup group;
    int count = 0, current = 0, x = 1, y = 1, now = 0;

```

```

OnlineTestBegin(String s) {
    super(s);
    label = new JLabel();
    add(label);
    group = new ButtonGroup();
    for (int i = 0; i < 5; i++) {
        options[i] = new JRadioButton();
        add(options[i]);
        group.add(options[i]);
    }
    saveNextButton = new JButton("Save and Next");

```

```
        saveLaterButton = new JButton("Save for later");
        saveNextButton.addActionListener(this);
        saveLaterButton.addActionListener(this);
        add(saveNextButton);
        add(saveLaterButton);
        set();
        setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        setLayout(new FlowLayout()); // Setting layout manager
        setLocation(250, 100);
        setVisible(true);
        setSize(600, 350);
    }
```

```
    public void actionPerformed(ActionEvent e) {
        // Your action listener code here
    }
```

```
    void set() {
        // Your set() method implementation here
    }
```

```
    boolean check() {
        // Your check() method implementation here
        return false;
    }
}
```

```
public class OnlineExam {
    public static void main(String args[]) {
        try {
            Login form = new Login();
        }
    }
}
```

```
        form.setSize(400, 150);  
        form.setVisible(true);  
    } catch (Exception e) {  
        JOptionPane.showMessageDialog(null, e.getMessage());  
    }  
}  
}
```