

```
import java.awt.*;
import java.awt.event.*;
import javax.swing.*;
import java.util.*;

class Quiz extends JFrame implements ActionListener {
```

```
    JPanel panel;
    JRadioButton choice1;
    JRadioButton choice2;
    JRadioButton choice3;
    JRadioButton choice4;
    ButtonGroup bg;
    JLabel lblmess;
    JButton btnnext;
    String[][] qpa;
    String[][] qca;
    int qaid;
    HashMap<Integer, String> map;
```

```
    Quiz() {
        initializedata();
        setTitle("Quiz Program");
        setDefaultCloseOperation(EXIT_ON_CLOSE);
        setSize(430, 350);
        setLocation(300, 100);
        setResizable(false);
        Container cont = getContentPane();
        cont.setLayout(null);
        cont.setBackground(Color.GRAY);
        bg = new ButtonGroup();
        choice1 = new JRadioButton("Choice1", true);
        choice2 = new JRadioButton("Choice2", false);
        choice3 = new JRadioButton("Choice3", false);
        choice4 = new JRadioButton("Choice4", false);
        bg.add(choice1);
        bg.add(choice2);
        bg.add(choice3);
        bg.add(choice4);
        lblmess = new JLabel("Choose a correct answer");
        lblmess.setForeground(Color.BLUE);
        lblmess.setFont(new Font("Arial", Font.BOLD, 11));
        btnnext = new JButton("Next");
        btnnext.setForeground(Color.BLUE);
        btnnext.addActionListener(this);
        panel = new JPanel();
        panel.setBackground(Color.LIGHT_GRAY);
        panel.setLocation(10, 10);
        panel.setSize(400, 300);
        panel.setLayout(new GridLayout(6, 2));
        panel.add(lblmess);
        panel.add(choice1);
        panel.add(choice2);
        panel.add(choice3);
        panel.add(choice4);
```

```

panel.add(btnext);
cont.add(panel);
setVisible(true);
qaid = 0;
readqa(qaid);
}

public void actionPerformed(ActionEvent e) {
    if (btnext.getText().equals("Next")) {
        if (qaid < 9) {
            map.put(qaid, getSelection());
            qaid++;
            readqa(qaid);
        }
        else {
            map.put(qaid, getSelection());
            btnext.setText("Show answers");
        }
    }
    else if (btnext.getText().equals("Show answers")) {
        new Report();
    }
}

public void initializedata() {
    //qpa stores pairs of question and its possible answers
    qpa = new String[10][5];

    qpa[0][0] = "What is the capital of India?";
    qpa[0][1] = "New Delhi";
    qpa[0][2] = "Mumbai";
    qpa[0][3] = "Kolkata";
    qpa[0][4] = "Ranchi";

    qpa[1][0] = "Name the national bird of india?";
    qpa[1][1] = "Peacock";
    qpa[1][2] = "Pigeon";
    qpa[1][3] = "Sparrow";
    qpa[1][4] = "Hummingbird";

    qpa[2][0] = "What is the largest state of india?";
    qpa[2][1] = "Rajasthan";
    qpa[2][2] = "Madhya Pradesh";
    qpa[2][3] = "Maharastra";
    qpa[2][4] = "Haryana";

    qpa[3][0] = "What is the national language of India?";
    qpa[3][1] = "Hindi";
    qpa[3][2] = "English";
    qpa[3][3] = "Marathi";
    qpa[3][4] = "India has no national language";

    qpa[4][0] = "What is the national animal of India?";
    qpa[4][1] = "Tiger";
    qpa[4][2] = "Cheetah";
}

```

```
qpa[4][3] = "Dog";
qpa[4][4] = "None of the above";

qpa[5][0] = "What are the total number of states in india?";
qpa[5][1] = "29";
qpa[5][2] = "28";
qpa[5][3] = "30";
qpa[5][4] = "31";
```

```
qpa[6][0] = "what are the total number of union territories in india?";
qpa[6][1] = "6";
qpa[6][2] = "4";
qpa[6][3] = "5";
qpa[6][4] = "7";
```

```
qpa[7][0] = "What is the National Currency of India?";
qpa[7][1] = "Euro";
qpa[7][2] = "Dhiram";
qpa[7][3] = "Rupee";
qpa[7][4] = "Dollar";
```

```
qpa[8][0] = "What is the National Fruit of India?";
qpa[8][1] = "Mango";
qpa[8][2] = "Banana";
qpa[8][3] = "Apple";
qpa[8][4] = "Orange";
```

```
qpa[9][0] = "What is the National Sport of India?";
qpa[9][1] = "cricket";
qpa[9][2] = "Hockey";
qpa[9][3] = "Football";
qpa[9][4] = "Basketball";
```

```
//qca stores pairs of question and its correct answer
qca = new String[10][2];
```

```
qca[0][0] = "What is the capital of India?";
qca[0][1] = "New Delhi";
```

```
qca[1][0] = "Name the national bird of india?";
qca[1][1] = "Peacock";
```

```
qca[2][0] = "What is the largest state of india?";
qca[2][1] = "Rajasthan";
```

```
qca[3][0] = "What is the national language of India?";
qca[3][1] = "India has no national language";
```

```
qca[4][0] = "What is the national animal of India?";
qca[4][1] = "Tiger";
```

```
qca[5][0] = "What are the total number of states in india?";
qca[5][1] = "29";
```

```
qca[6][0] = "what are the total number of union territories in india?";  
qca[6][1] = "7";
```

```
qca[7][0] = "What is the National Currency of India?";  
qca[7][1] = "Rupee";
```

```
qca[8][0] = "What is the National Fruit of India?";  
qca[8][1] = "Mango";
```

```
qca[9][0] = "What is the National Sport of India?";  
qca[9][1] = "cricket";
```

```
//create a map object to store pairs of question and selected answer  
map = new HashMap<>();  
}
```

```
public String getSelection() {  
    String selectedChoice = null;  
    Enumeration<AbstractButton> buttons = bg.getElements();  
    while (buttons.hasMoreElements()) {  
        JRadioButton temp = (JRadioButton) buttons.nextElement();  
        if (temp.isSelected()) {  
            selectedChoice = temp.getText();  
        }  
    }  
    return (selectedChoice);  
}
```

```
public void readqa(int qid) {  
    lblmess.setText(" " + qpa[qid][0]);  
    choice1.setText(qpa[qid][1]);  
    choice2.setText(qpa[qid][2]);  
    choice3.setText(qpa[qid][3]);  
    choice4.setText(qpa[qid][4]);  
    choice1.setSelected(true);  
}
```

```
public void reset() {  
    qaid = 0;  
    map.clear();  
    readqa(qaid);  
    btnnext.setText("Next");  
}
```

```
public int calCorrectAnswer() {  
    int qnum = 10;  
    int count = 0;  
    for (int qid = 0; qid < qnum; qid++) {  
        if (qca[qid][1].equals(map.get(qid))) {  
            count++;  
        }  
    }  
}
```

```

        return count;
    }

public class Report extends JFrame {
    Report() {
        setTitle("Answers");
        setSize(850, 550);
        setBackground(Color.WHITE);
        addWindowListener(new WindowAdapter() {
            public void windowClosing(WindowEvent e) {
                dispose();
                reset();
            }
        });
        Draw d = new Draw();
        add(d);
        setVisible(true);
    }

class Draw extends Canvas {
    public void paint(Graphics g) {
        int qnum = 10;
        int x = 10;
        int y = 20;
        for (int i = 0; i < qnum; i++) {
            //print the 1st column
            g.setColor(Color.BLUE);
            g.setFont(new Font("Arial", Font.BOLD, 12));
            g.drawString(i + 1 + ". " + qca[i][0], x, y);
            y += 30;
            g.setFont(new Font("Arial", Font.PLAIN, 12));
            g.drawString("    Correct answer:" + qca[i][1], x, y);
            y += 30;
            g.drawString("    Your answer:" + map.get(i), x, y);
            y += 30;
            //print the 2nd column
            if (y > 400) {
                y = 20;
                x = 450;
            }
        }
        //show number of correct answers
        int numc = calCorrectAnswer();
        g.setColor(Color.BLUE);
        g.setFont(new Font("Arial", Font.BOLD, 14));
        g.drawString("Number of correct answers:" + numc, 300, 500);
    }
}

public class QuizProgram {
    public static void main(String args[]) {
        new Quiz();
    }
}

```

