QuestionDialog.java

```java
import java.awt.event.*;
import javax.swing.*;
public class QuestionDialog extends JDialog implements ActionListener{

    String answer;
    public void actionPerformed(ActionEvent e){
        answer = e.getActionCommand();
        dispose();
    }
}
```

Question.java

```java
import java.awt.*;
import java.awt.event.*;
import javax.swing.*;
public abstract class Question {
    static int nQuestions = 0;
    static int nCorrect = 0;

    QuestionDialog question;
    String correctAnswer;
    Question(String question){
        this.question = new QuestionDialog();
        this.question.setLayout(new GridLayout(0,1));
        this.question.add(new JLabel("" + question + "", JLabel.CENTER));
    }

    String ask() {
        question.setVisible(true);
        return question.answer;
    }

    void check() {
        nQuestions++;
        String answer = ask();

        if (answer.equals(correctAnswer)){
            JOptionPane.showConfirmDialog(null, "Correct!");
            nCorrect++;
        } else {
            JOptionPane.showMessageDialog(null, "Incorrect. The correct answer
is "+correctAnswer+".");
        }
    }

    void initQuestionDialog(){
```

```java
        this.question.setModal(true);
        this.question.pack();
        this.question.setLocationRelativeTo(null);
    }

    void showResults() {
        JOptionPane.showMessageDialog(null, nCorrect+" Correct out of
"+nQuestions+" questions");
    }
}
```

TrueFalseQuestion.java

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

public class TrueFalseQuestion extends Question{
    public TrueFalseQuestion(String question){
        super(question);
    }
    TrueFalseQuestion(String question, String answer){
        super(question);
        JPanel buttons = new JPanel();
        addButton(buttons, "TRUE");
        addButton(buttons, "FALSE");
        this.question.add(buttons);

        initQuestionDialog();
        answer = answer.toUpperCase();

        if (answer.equals("T")||
        answer.equals("TRUE")||
        answer.equals("Y")||
        answer.equals("YES")) correctAnswer = "TRUE";

        if (answer.equals("F")||
        answer.equals("FALSE")||
        answer.equals("N")||
        answer.equals("NO")) correctAnswer = "FALSE";
    }
    void addButton(JPanel buttons, String label){
        JButton button = new JButton(label);
        button.addActionListener(question);
        buttons.add(button);
    }
}
```

MultipleChoiceQuestion.java
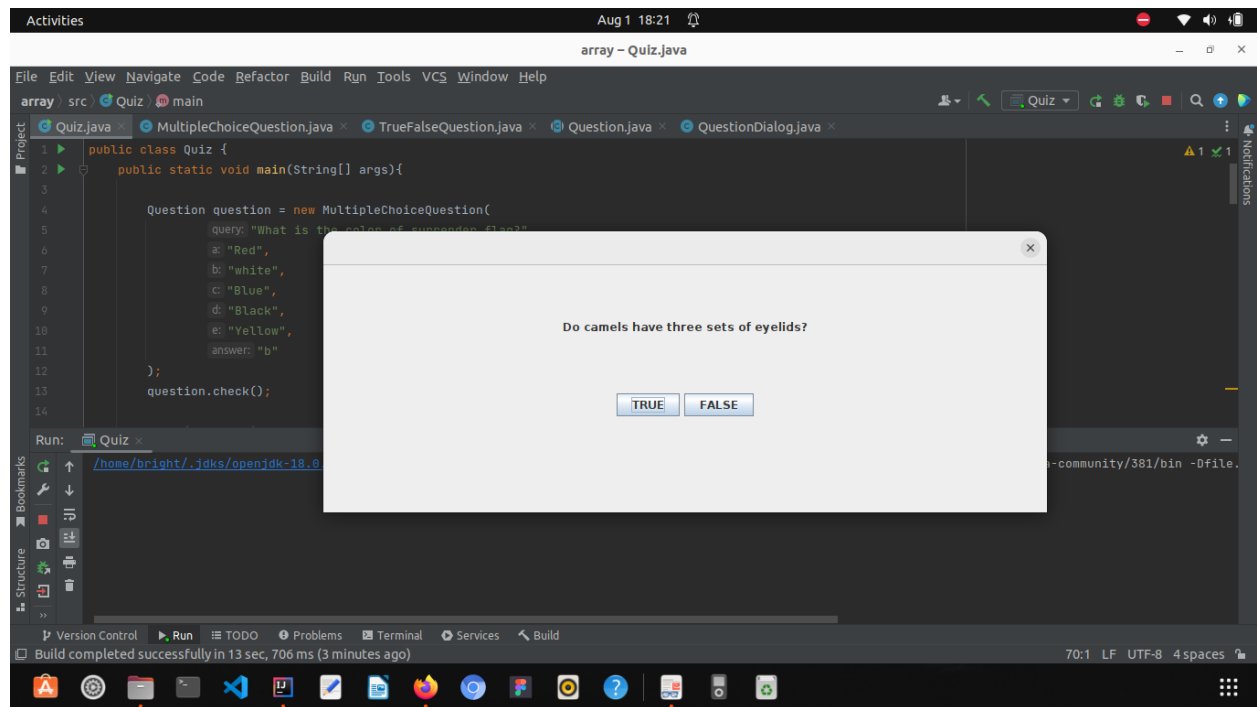
```java
import java.awt.*;
import javax.swing.*;
public class MultipleChoiceQuestion extends Question{
    MultipleChoiceQuestion(
            String query,
            String a,
            String b,
            String c,
            String d,
            String e,
            String answer){
        super(query);
        addChoice("A", a);
        addChoice("B", b);
        addChoice("C", c);
        addChoice("D", d);
        addChoice("E", e);
        initQuestionDialog();

        correctAnswer = answer;
        correctAnswer = correctAnswer.toLowerCase();
    }

    void addChoice(String name, String label) {
        JPanel choice = new JPanel(new BorderLayout());
        JButton button = new JButton(name);
        button.addActionListener(question);
        choice.add(button,BorderLayout.WEST);
        choice.add(new JLabel(label+"", JLabel.LEFT), BorderLayout.CENTER);
        question.add(choice);
    }
}
```

A screenshot showing a dialog box asking a true/false question

A screenshot showing a dialog box asking a multiple-choice question