

# TASK-4

## Question.java

```
package task4;

public class Question {

    private String question;

    private String[] options;

    private int correctAnswer;

    private int timeLimit;

    private int userAnswer;

    public Question(String question, String[] options, int correctAnswer, int timeLimit) {

        this.question = question;

        this.options = options;

        this.correctAnswer = correctAnswer;

        this.timeLimit = timeLimit;

    }

    public String getQuestion() {

        return question;

    }

    public String[] getOptions() {

        return options;

    }

    public boolean isCorrectAnswer(int answer) {

        this.userAnswer = answer;

        return answer == correctAnswer;

    }

    public int getUserAnswer() {

        return userAnswer;

    }

}
```

```
public String getCorrectAnswer() {  
    return options[correctAnswer - 1];  
}  
  
public int getTimeLimit() {  
    return timeLimit;  
}  
}
```

## Quiz.java

```
package task4;  
  
import java.util.Scanner;  
import java.util.Timer;  
import java.util.TimerTask;  
  
public class Quiz {  
    private Question[] questions;  
    private int score;  
    private int currentQuestionIndex;  
    private Scanner scanner;  
    private boolean answerSubmitted;  
    private Timer timer;  
    private boolean timesUp;  
  
    public Quiz(Question[] questions) {  
        this.questions = questions;  
        this.score = 0;  
        this.currentQuestionIndex = 0;  
        this.scanner = new Scanner(System.in);  
    }  
  
    public void start() {  
        System.out.println("Welcome to the Quiz!");  
    }  
}
```

```

    for (currentQuestionIndex = 0; currentQuestionIndex < questions.length;
currentQuestionIndex++) {

        timesUp = false;

        answerSubmitted = false;

        Question question = questions[currentQuestionIndex];

        System.out.println("Question " + (currentQuestionIndex + 1) + ": " + question.getQuestion());

        for (int i = 0; i < question.getOptions().length; i++) {

            System.out.println((i + 1) + ". " + question.getOptions()[i]);

        }

        timer = new Timer();
        timer.schedule(new TimerTask() {

            @Override

            public void run() {

                timesUp = true;

                if (!answerSubmitted) {

                    System.out.println("\nTime's up! Moving to the next question...");

                    nextQuestion();

                }

            }

        }, question.getTimeLimit() * 1000);

        System.out.print("Enter your answer (1-4): ");

        int userAnswer = scanner.nextInt();

        answerSubmitted = true;

        timer.cancel();

        if (timesUp) continue;

```

```

        if (question.isCorrectAnswer(userAnswer)) {
            score++;
            System.out.println("Correct!");
        } else {
            System.out.println("Incorrect. The correct answer was: " + question.getCorrectAnswer());
        }

        System.out.println();
    }

    showResults();
    scanner.close();
}

```

```

private void nextQuestion() {
    currentQuestionIndex++;
    if (currentQuestionIndex < questions.length) {
        start();
    } else {
        showResults();
    }
}

```

```

private void showResults() {
    System.out.println("Quiz Over!");
    System.out.println("Your final score is: " + score + " out of " + questions.length);

    for (int i = 0; i < questions.length; i++) {
        Question question = questions[i];
        System.out.println("Question " + (i + 1) + ": " + question.getQuestion());
        System.out.println("Your answer: " + question.getOptions()[question.getUserAnswer() - 1]);
    }
}

```

```

        System.out.println("Correct answer: " + question.getCorrectAnswer() + "\n");
    }
}

public static void main(String[] args) {

    Question[] questions = new Question[3];

    questions[0] = new Question("What is the capital of France?", new String[]{"Berlin", "Madrid",
"Paris", "Rome"}, 3, 10);

    questions[1] = new Question("What is 2 + 2?", new String[]{"3", "4", "5", "6"}, 2, 10);

    questions[2] = new Question("Which planet is known as the Red Planet?", new String[]{"Earth",
"Mars", "Jupiter", "Venus"}, 2, 10);

    Quiz quiz = new Quiz(questions);

    quiz.start();
}
}

```

Screen shot:

The screenshot shows the Eclipse IDE with a Java project named 'tasks'. The 'src' folder contains several files, including 'Quiz.java' and 'Question.java'. The 'Quiz.java' file is open, showing the main method and the start method. The console output shows the quiz running, displaying questions, user answers, and correct answers.

```

Welcome to the Quiz!
Question 1: What is the capital of France?
1. Berlin
2. Madrid
3. Paris
4. Rome
Enter your answer (1-4): 78
Incorrect. The correct answer was: Paris

Question 2: What is 2 + 2?
1. 3
2. 4
3. 5
4. 6
Enter your answer (1-4): 125
Incorrect. The correct answer was: 4

Question 3: Which planet is known as the Red Planet?
1. Earth
2. Mars
3. Jupiter
4. Venus
Enter your answer (1-4):

```

