

```
import java.util.ArrayList;
```

```
import java.util.List;
```

```
import java.util.Scanner;
```

```
class Question {
```

```
    private String question;
```

```
    private List<String> options;
```

```
    private char correctAnswer;
```

```
    public Question(String question, List<String> options, char correctAnswer) {
```

```
        this.question = question;
```

```
        this.options = options;
```

```
        this.correctAnswer = correctAnswer;
```

```
    }
```

```
    public String getQuestion() {
```

```
        return question;
```

```
    }
```

```
    public List<String> getOptions() {
```

```
        return options;
```

```
    }
```

```
    public char getCorrectAnswer() {
```

```
        return correctAnswer;
```

```
    }
```

```
}
```

```
class Quiz {
```

```
    private List<Question> questions;
```

```

public Quiz(List<Question> questions) {
    this.questions = questions;
}

public void start() {
    Scanner scanner = new Scanner(System.in);
    int score = 0;

    for (Question question : questions) {
        System.out.println(question.getQuestion());
        List<String> options = question.getOptions();
        for (int i = 0; i < options.size(); i++) {
            System.out.println((char) ('A' + i) + ". " + options.get(i));
        }

        char userAnswer = getUserAnswer(scanner);

        if (userAnswer == question.getCorrectAnswer()) {
            System.out.println("Correct!\n");
            score++;
        } else {
            System.out.println("Incorrect. The correct answer is " + question.getCorrectAnswer() +
".\n");
        }
    }

    System.out.println("Quiz completed!");
    System.out.println("Your score: " + score + " out of " + questions.size());

    scanner.close();
}

```

```

private char getUserAnswer(Scanner scanner) {
    char userAnswer;
    do {
        System.out.print("Your answer: ");
        String input = scanner.next().toUpperCase();
        if (input.length() == 1 && input.charAt(0) >= 'A' && input.charAt(0) <= 'Z') {
            userAnswer = input.charAt(0);
            break;
        } else {
            System.out.println("Invalid input. Please enter a valid option (A, B, C, etc.).");
        }
    } while (true);

    return userAnswer;
}
}

```

```

public class Main {
    public static void main(String[] args) {
        List<Question> questions = new ArrayList<>();

        questions.add(new Question("What is the capital of France?", List.of("Paris", "Berlin",
"London"), 'A'));

        questions.add(new Question("What is the largest mammal?", List.of("Elephant", "Blue Whale",
"Giraffe"), 'B'));

        questions.add(new Question("Which planet is known as the Red Planet?", List.of("Earth",
"Mars", "Venus"), 'B'));

        Quiz quiz = new Quiz(questions);
        quiz.start();
    }
}

```