

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

```
class Question {
```

```
    private final String prompt;
```

```
    private final String answer;
```

```
    public Question(String prompt, String answer) {
```

```
        this.prompt = prompt;
```

```
        this.answer = answer;
```

```
    }
```

```
    public String getPrompt() {
```

```
        return prompt;
```

```
    }
```

```
    protected boolean checkAnswer(String response) {
```

```
        return response.equalsIgnoreCase(answer);
```

```
    }
```

```
    public void displayQuestion() {
```

```
        System.out.println(getPrompt());
```

```
    }
```

```
}
```

```
class MultipleChoiceQuestion extends Question {
```

```
    private final String[] options;
```

```
    public MultipleChoiceQuestion(String prompt, String answer, String[] options) {
```

```
        super(prompt, answer);
```

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

```
    }
```

@Override

```
public void displayQuestion() {  
    super.displayQuestion();  
    for (int i = 0; i < options.length; i++) {  
        System.out.println((i + 1) + ": " + options[i]);  
    }  
}  
}
```

```
public class QuizApp {  
    public static void main(String[] args) {  
        try (Scanner scanner = new Scanner(System.in)) {  
            System.out.print("Enter your name: ");  
            String name = scanner.nextLine();  
            System.out.print("Enter your roll number: ");  
            String rollNumber = scanner.nextLine();  
  
            int score = 0;  
  
            Question[] questions = {  
                new MultipleChoiceQuestion(  
                    "What is the capital of France?",  
                    "paris",  
                    new String[]{"Karachi", "Lahore", "Paris", "Rawalpindi"}  
                ),  
                new MultipleChoiceQuestion(  
                    "Which planet is known as the Red Planet?",  
                    "mars",  
                    new String[]{"Earth", "Venus", "Mars", "Jupiter"}  
                ),  
            }  
        }  
    }  
}
```

```
new MultipleChoiceQuestion(  
    "What is the largest ocean on Earth?",  
    "pacific",  
    new String[]{"Atlantic", "Indian", "Pacific", "Arctic"}  
),  
new MultipleChoiceQuestion(  
    "What is the capital of Australia?",  
    "canberra",  
    new String[]{"Sydney", "Melbourne", "Canberra", "Perth"}  
),  
new MultipleChoiceQuestion(  
    "What is the highest mountain in the world?",  
    "everest",  
    new String[]{"K2", "Everest", "Kilimanjaro", "Denali"}  
),  
new MultipleChoiceQuestion(  
    "What is the capital of Canada?",  
    "ottawa",  
    new String[]{"Toronto", "Vancouver", "Ottawa", "Montreal"}  
),  
new MultipleChoiceQuestion(  
    "Which planet is closest to the sun?",  
    "mercury",  
    new String[]{"Venus", "Mercury", "Mars", "Earth"}  
),  
new MultipleChoiceQuestion(  
    "What is the largest country by land area?",  
    "russia",  
    new String[]{"Canada", "China", "USA", "Russia"}  
),  
new MultipleChoiceQuestion(  

```

```

        "What is the smallest country in the world?",
        "vatican city",
        new String[]{"Monaco", "Nauru", "Tuvalu", "Vatican City"}
    ),
    new MultipleChoiceQuestion(
        "What is the longest river in the world?",
        "nile",
        new String[]{"Amazon", "Nile", "Yangtze", "Mississippi"}
    )
};

for (Question q : questions) {
    q.displayQuestion();
    System.out.print("Enter your answer: ");
    String userAnswer = scanner.nextLine();
    if (q.checkAnswer(userAnswer)) {
        score++;
    }
}

System.out.println("Your final score is: " + score);
}
}
}

```