import java.util.Scanner;

class User {

private String name;

private String password;

private String profileDetails;

public User(String name, String password, String profileDetails) {

this.name = name;

this.password = password;

this.profileDetails = profileDetails;

}

public String getName() {

return name;

}

public String getProfileDetails() {

return profileDetails;

}

public boolean authenticate(String enteredName, String enteredPassword) {

return name.equals(enteredName) && password.equals(enteredPassword.trim());

}

public void updateProfile(String newProfileDetails) {

this.profileDetails = newProfileDetails;

}

public void changePassword(String newPassword) {

this.password = newPassword;

}

}

class Exam {

private int totalQuestions;

private String[] questions;

private String[] correctAnswers;

private boolean[] userAnswers;

public Exam(int totalQuestions) {

this.totalQuestions = totalQuestions;

questions = new String[totalQuestions];

correctAnswers = new String[totalQuestions];

userAnswers = new boolean[totalQuestions];

}

public void setQuestion(int questionNumber, String question, String correctAnswer) {

questions[questionNumber] = question;

correctAnswers[questionNumber] = correctAnswer;

}

public void selectAnswer(int questionNumber, boolean isCorrect) {

userAnswers[questionNumber] = isCorrect;

}

public int getTotalQuestions() {

return totalQuestions;

}

public boolean isAnswerCorrect(int questionNumber) {

return userAnswers[questionNumber];

}

public void displayQuestions() {

System.out.println("Answer the following questions with true or false:");

for (int i = 0; i < totalQuestions; i++) {

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

}

}

public void displayResults() {

int correctCount = 0;

System.out.println("\nResults:");

for (int i = 0; i < totalQuestions; i++) {

boolean isCorrect = userAnswers[i];

System.out.println((i + 1) + ". " + questions[i] + " - " + (isCorrect ? "Correct" : "Incorrect"));

if (isCorrect) correctCount++;

}

System.out.println("Total Correct Answers: " + correctCount + "/" + totalQuestions);

}

}

public class Main {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

User user = new User("UDAY", "9630", "Profile details");

Exam exam = new Exam(5);

exam.setQuestion(0, "What is the basic concept of OOP?", "Encapsulation");

exam.setQuestion(1, "What is the superclass of all classes in Java?", "Object");

exam.setQuestion(2, "Which keyword is used to define a constant in Java?", "final");

exam.setQuestion(3, "What is the output of 4 + 3 \* 2?", "10");

exam.setQuestion(4, "Which collection class allows null values?", "HashMap");

boolean loggedIn = false;

// Authentication loop

while (!loggedIn) {

System.out.println("Login:");

System.out.print("Enter username: ");

String username = scanner.nextLine();

System.out.print("Enter password: ");

String password = scanner.nextLine();

if (user.authenticate(username, password)) {

loggedIn = true;

System.out.println("\nLogin successful, " + user.getName() + "!\n");

} else {

System.out.println("Invalid username or password. Please try again.\n");

}

}

// Exam process

System.out.println("Answer the following questions:");

exam.displayQuestions();

for (int i = 0; i < exam.getTotalQuestions(); i++) {

System.out.print("Answer for Question " + (i + 1) + " (true/false): ");

boolean answer = scanner.nextBoolean();

exam.selectAnswer(i, answer);

}

// Display results

exam.displayResults();

// Logout

System.out.println("\nClosing session...\nLogging out...");

scanner.close();

}

}

OUTPUT:

Login:

Enter username: UDAY

Enter password: 9630

Login successful, UDAY!

Answer the following questions:

Answer the following questions with true or false:

1. What is the basic concept of OOP?

2. What is the superclass of all classes in Java?

3. Which keyword is used to define a constant in Java?

4. What is the output of 4 + 3 \* 2?

5. Which collection class allows null values?

Answer for Question 1 (true/false): true

Answer for Question 2 (true/false): true

Answer for Question 3 (true/false): false

Answer for Question 4 (true/false): true

Answer for Question 5 (true/false): true

Results:

1. What is the basic concept of OOP? - Correct

2. What is the superclass of all classes in Java? - Correct

3. Which keyword is used to define a constant in Java? - Incorrect

4. What is the output of 4 + 3 \* 2? - Correct

5. Which collection class allows null values? - Correct

Total Correct Answers: 4/5

Closing session...

Logging out...

=== Code Execution Successful ===