

Java Fitness Tracker Application

Description:

A fitness application that allows users to log their workouts, track their progress, set fitness goals, and receive personalized workout recommendations based on user inputs and past activities.

Functionalities:

1. User Registration:

- Allows new users to create an account.
- Required Information: Username and Password.

2. User Login:

- Existing users can log into the application.
- Required Information: Username and Password.

3. Log a Workout:

- Once logged in, users can enter details of their workout sessions.
- Required Inputs:
 - Exercise Type: The kind of exercise done, such as "running", "weightlifting", etc.
 - Duration: The total duration of the exercise in minutes.
 - Sets: The number of sets completed (for exercises that involve sets and repetitions).
 - Repetitions (Reps): The number of times the exercise was repeated in a set.
 - Weight: The amount of weight lifted or used during the exercise, in kilograms.

4. View Workout History:

- Users can view a list of all the workouts they have logged in the past.
- The history will display details like the exercise type, duration, sets, reps, weight, and the date of the workout.

5. Logout:

- Users can log out of their account, returning to the main menu.

6. Exit Application:

- Users can exit the program entirely.
-

```
import java.util.ArrayList;
import java.util.Date;
import java.util.List;
import java.util.Scanner;

class User {
    private String username;
    private String password;
    private List<WorkoutSession> workoutSessions;

    public User(String username, String password) {
        this.username = username;
        this.password = password;
        this.workoutSessions = new ArrayList<>();
    }

    public String getUsername() {
        return username;
    }

    public boolean validatePassword(String inputPassword) {
        return this.password.equals(inputPassword);
    }
}
```

```
public void logWorkout(WorkoutSession session) {
    this.workoutSessions.add(session);
}

public void viewLoggedWorkouts() {
    for (WorkoutSession session : workoutSessions) {
        System.out.println(session);
    }
}

class WorkoutSession {
    private Date date;
    private String exerciseType;
    private int duration;
    private int reps;
    private int sets;
    private double weight;

    public WorkoutSession(Date date, String exerciseType, int duration, int reps, int sets, double
weight) {
        this.date = date;
        this.exerciseType = exerciseType;
        this.duration = duration;
        this.reps = reps;
        this.sets = sets;
        this.weight = weight;
    }
}
```

@Override

```
public String toString() {  
    return "Workout on " + date + ": " + exerciseType + " for " + duration + " minutes, " + sets  
    + " sets of " + reps + " reps at " + weight + " kg each."  
}  
}
```

```
public class FitnessTracker {  
    private static List<User> users = new ArrayList<>();  
    private static Scanner scanner = new Scanner(System.in);  
  
    public static void main(String[] args) {  
        while (true) {  
            System.out.println("1. Register\n2. Login\n3. Exit");  
            int choice = scanner.nextInt();  
            scanner.nextLine(); // consume newline  
  
            switch (choice) {  
                case 1:  
                    register();  
                    break;  
                case 2:  
                    login();  
                    break;  
                case 3:  
                    System.out.println("Exiting...");  
                    return;  
                default:  
                    System.out.println("Invalid choice.");  
            }  
        }  
    }  
}
```

```
    }  
    }  
}
```

```
private static void register() {  
    System.out.print("Enter username: ");  
    String username = scanner.nextLine();  
    System.out.print("Enter password: ");  
    String password = scanner.nextLine();  
  
    User newUser = new User(username, password);  
    users.add(newUser);  
  
    System.out.println("Registration successful!");  
}
```

```
private static void login() {  
    System.out.print("Enter username: ");  
    String username = scanner.nextLine();  
    System.out.print("Enter password: ");  
    String password = scanner.nextLine();  
  
    for (User user : users) {  
        if (user.getUsername().equals(username) && user.validatePassword(password)) {  
            userDashboard(user);  
            return;  
        }  
    }  
}
```

```

        System.out.println("Invalid credentials.");
    }

    private static void userDashboard(User user) {
        while (true) {
            System.out.println("1. Log workout\n2. View workouts\n3. Logout");
            int choice = scanner.nextInt();
            scanner.nextLine(); // consume newline

            switch (choice) {
                case 1:
                    logWorkout(user);
                    break;
                case 2:
                    user.viewLoggedWorkouts();
                    break;
                case 3:
                    return;
                default:
                    System.out.println("Invalid choice.");
            }
        }
    }

    private static void logWorkout(User user) {
        System.out.print("Enter exercise type: ");
        String exerciseType = scanner.nextLine();
    }

```

```
System.out.print("Enter duration (in minutes): ");
int duration = scanner.nextInt();
System.out.print("Enter sets: ");
int sets = scanner.nextInt();
System.out.print("Enter reps: ");
int reps = scanner.nextInt();
System.out.print("Enter weight (in kg): ");
double weight = scanner.nextDouble();

WorkoutSession session = new WorkoutSession(new Date(), exerciseType, duration, reps,
sets, weight);
user.logWorkout(session);

System.out.println("Workout logged!");
}
}
```