import java.util.ArrayList;

import java.util.Scanner;

class Grade {

private String subject;

private double grade;

public Grade(String subject, double grade) {

this.subject = subject;

this.grade = grade;

}

public String getSubject() {

return subject;

}

public double getGrade() {

return grade;

}

public void setGrade(double grade) {

this.grade = grade;

}

}

class Student {

private String name;

private ArrayList<Grade> grades;

public Student(String name) {

this.name = name;

this.grades = new ArrayList<>();

}

public String getName() {

return name;

}

public void addGrade(String subject, double grade) {

grades.add(new Grade(subject, grade));

}

public void editGrade(String subject, double newGrade) {

for (Grade g : grades) {

if (g.getSubject().equalsIgnoreCase(subject)) {

g.setGrade(newGrade);

return;

}

}

System.out.println("Subject not found!");

}

public void deleteGrade(String subject) {

grades.removeIf(g -> g.getSubject().equalsIgnoreCase(subject));

}

public double calculateAverageGrade() {

double sum = 0;

for (Grade g : grades) {

sum += g.getGrade();

}

return grades.isEmpty() ? 0 : sum / grades.size();

}

public void displayGrades() {

System.out.println("Grades for " + name + ":");

for (Grade g : grades) {

System.out.println(g.getSubject() + ": " + g.getGrade());

}

System.out.println("Average Grade: " + calculateAverageGrade());

}

}

public class GradeTracker {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

System.out.print("Enter student's name: ");

String name = scanner.nextLine();

Student student = new Student(name);

while (true) {

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

System.out.println("1. Add Grade");

System.out.println("2. Edit Grade");

System.out.println("3. Delete Grade");

System.out.println("4. Display Grades");

System.out.println("5. Exit");

System.out.print("Choose an option: ");

int option = scanner.nextInt();

scanner.nextLine(); // Consume newline

switch (option) {

case 1:

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

String subject = scanner.nextLine();

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

double grade = scanner.nextDouble();

student.addGrade(subject, grade);

break;

case 2:

System.out.print("Enter subject to edit: ");

String editSubject = scanner.nextLine();

System.out.print("Enter new grade: ");

double newGrade = scanner.nextDouble();

student.editGrade(editSubject, newGrade);

break;

case 3:

System.out.print("Enter subject to delete: ");

String deleteSubject = scanner.nextLine();

student.deleteGrade(deleteSubject);

break;

case 4:

student.displayGrades();

break;

case 5:

System.out.println("Exiting program.");

System.exit(0);

default:

System.out.println("Invalid option! Please try again.");

}

}

}

}