import java.util.ArrayList;

import java.util.Scanner;

public class StudentManagementSystem {

static ArrayList<Student> students = new ArrayList<>();

static Scanner scanner = new Scanner(System.in);

public static void main(String[] args) {

while (true) {

System.out.println("\nStudent Management System");

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

System.out.println("2. View All Students");

System.out.println("3. Search Student by ID");

System.out.println("4. Delete Student by ID");

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

System.out.print("Enter your choice: ");

int choice = scanner.nextInt();

switch (choice) {

case 1 -> addStudent();

case 2 -> viewStudents();

case 3 -> searchStudent();

case 4 -> deleteStudent();

case 5 -> {

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

return;

}

default -> System.out.println("Invalid choice! Please try again.");

}

}

}

static void addStudent() {

System.out.print("Enter Student ID: ");

int id = scanner.nextInt();

scanner.nextLine(); // Consume newline

System.out.print("Enter Student Name: ");

String name = scanner.nextLine();

System.out.print("Enter Student Age: ");

int age = scanner.nextInt();

students.add(new Student(id, name, age));

System.out.println("Student added successfully!");

}

static void viewStudents() {

if (students.isEmpty()) {

System.out.println("No students found.");

} else {

for (Student student : students) {

System.out.println(student);

}

}

}

static void searchStudent() {

System.out.print("Enter Student ID to search: ");

int id = scanner.nextInt();

for (Student student : students) {

if (student.id == id) {

System.out.println("Student Found: " + student);

return;

}

}

System.out.println("Student not found.");

}

static void deleteStudent() {

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

int id = scanner.nextInt();

for (Student student : students) {

if (student.id == id) {

students.remove(student);

System.out.println("Student deleted successfully!");

return;

}

}

System.out.println("Student not found.");

}

}

class Student {

int id;

String name;

int age;

Student(int id, String name, int age) {

this.id = id;

this.name = name;

this.age = age;

}

public String toString() {

return "ID: " + id + ", Name: " + name + ", Age: " + age;

}

}