import java.util.ArrayList;

import java.util.Scanner;

class Student {

String name;

int id;

String course;

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

this.id = id;

this.name = name;

this.course = course;

}

void display() {

System.out.println("ID: " + id + ", Name: " + name + ", Course: " + course);

}

}

public class StudentInfoSystem {

public static void main(String[] args) {

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

Scanner sc = new Scanner(System.in);

int choice;

do {

System.out.println("\n--- Student Information System ---");

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

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

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

System.out.println("4. Exit");

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

choice = sc.nextInt();

switch (choice) {

case 1:

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

int id = sc.nextInt();

sc.nextLine(); // consume newline

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

String name = sc.nextLine();

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

String course = sc.nextLine();

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

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

break;

case 2:

System.out.println("\nStudent List:");

for (Student s : students) {

s.display();

}

break;

case 3:

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

int searchId = sc.nextInt();

boolean found = false;

for (Student s : students) {

if (s.id == searchId) {

s.display();

found = true;

break;

}

}

if (!found) {

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

}

break;

case 4:

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

break;

default:

System.out.println("Invalid choice.");

}

} while (choice != 4);

sc.close();

}

}.

Output

--- Student Information System ---

1. Add Student

2. Display All Students

3. Search by ID

4. Exit

Enter choice: 1

Enter ID: 101

Enter Name: Alice

Enter Course: Computer Science

Student added successfully.

--- Student Information System ---

1. Add Student

2. Display All Students

3. Search by ID

4. Exit

Enter choice: 1

Enter ID: 102

Enter Name: Bob

Enter Course: Mathematics

Student added successfully.

--- Student Information System ---

1. Add Student

2. Display All Students

3. Search by ID

4. Exit

Enter choice: 2

Student List:

ID: 101, Name: Alice, Course: Computer Science

ID: 102, Name: Bob, Course: Mathematics

--- Student Information System ---

1. Add Student

2. Display All Students

3. Search by ID

4. Exit

Enter choice: 3

Enter ID to search: 102

ID: 102, Name: Bob, Course: Mathematics

--- Student Information System ---

1. Add Student

2. Display All Students

3. Search by ID

4. Exit

Enter choice: 4

Exiting...