import java.io.\*;

import java.util.\*;

public class StudentRecord{

static final String FILE\_NAME = "students.txt";

public static void createFile() {

try {

File file = new File(FILE\_NAME);

if (file.createNewFile()) {

System.out.println("File created.");

}

} catch (IOException e) {

System.out.println("Error creating file.");

}

}

public static void writeFile(String data) {

try (FileWriter fw = new FileWriter(FILE\_NAME)) {

fw.write(data);

System.out.println("Data written.");

} catch (IOException e) {

System.out.println("Error writing to file.");

}

}

public static void appendFile(String data) {

try (FileWriter fw = new FileWriter(FILE\_NAME, true)) {

fw.write(data);

System.out.println("Data appended.");

} catch (IOException e) {

System.out.println("Error appending to file.");

}

}

public static void readFile() {

try (BufferedReader br = new BufferedReader(new FileReader(FILE\_NAME))) {

String line;

System.out.println("Student Records:");

while ((line = br.readLine()) != null) {

System.out.println(line);

}

} catch (IOException e) {

System.out.println("Error reading file.");

}

}

public static void updateFile(String studentId, String newData) {

File file = new File(FILE\_NAME);

List<String> lines = new ArrayList<>();

try (BufferedReader br = new BufferedReader(new FileReader(file))) {

String line;

while ((line = br.readLine()) != null) {

if (line.startsWith(studentId + " ")) {

lines.add(newData); // Replace line

} else {

lines.add(line); // Keep line

}

}

} catch (IOException e) {

System.out.println("Error reading file.");

}

try (FileWriter fw = new FileWriter(file)) {

for (String l : lines) {

fw.write(l + "\n");

}

System.out.println("Record updated.");

} catch (IOException e) {

System.out.println("Error updating file.");

}

}

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

createFile();

while (true) {

System.out.println("\n1. Write Records");

System.out.println("2. Append Record");

System.out.println("3. Read Records");

System.out.println("4. Update Record");

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

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

int choice = Integer.parseInt(sc.nextLine());

switch (choice) {

case 1:

System.out.print("Enter number of students: ");

int n = Integer.parseInt(sc.nextLine());

StringBuilder sb = new StringBuilder();

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

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

String id = sc.nextLine();

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

String name = sc.nextLine();

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

String age = sc.nextLine();

sb.append(id).append(" ").append(name).append(" ").append(age).append("\n");

}

writeFile(sb.toString());

break;

case 2:

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

String id = sc.nextLine();

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

String name = sc.nextLine();

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

String age = sc.nextLine();

appendFile(id + " " + name + " " + age + "\n");

break;

case 3:

readFile();

break;

case 4:

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

String updatedId = sc.nextLine();

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

String newName = sc.nextLine();

System.out.print("New Age: ");

String newAge = sc.nextLine();

updateFile(updatedId, updatedId + " " + newName + " " + newAge);

break;

case 5:

System.out.println("Bye!");

sc.close();

return;

default:

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

}

}

}

}



