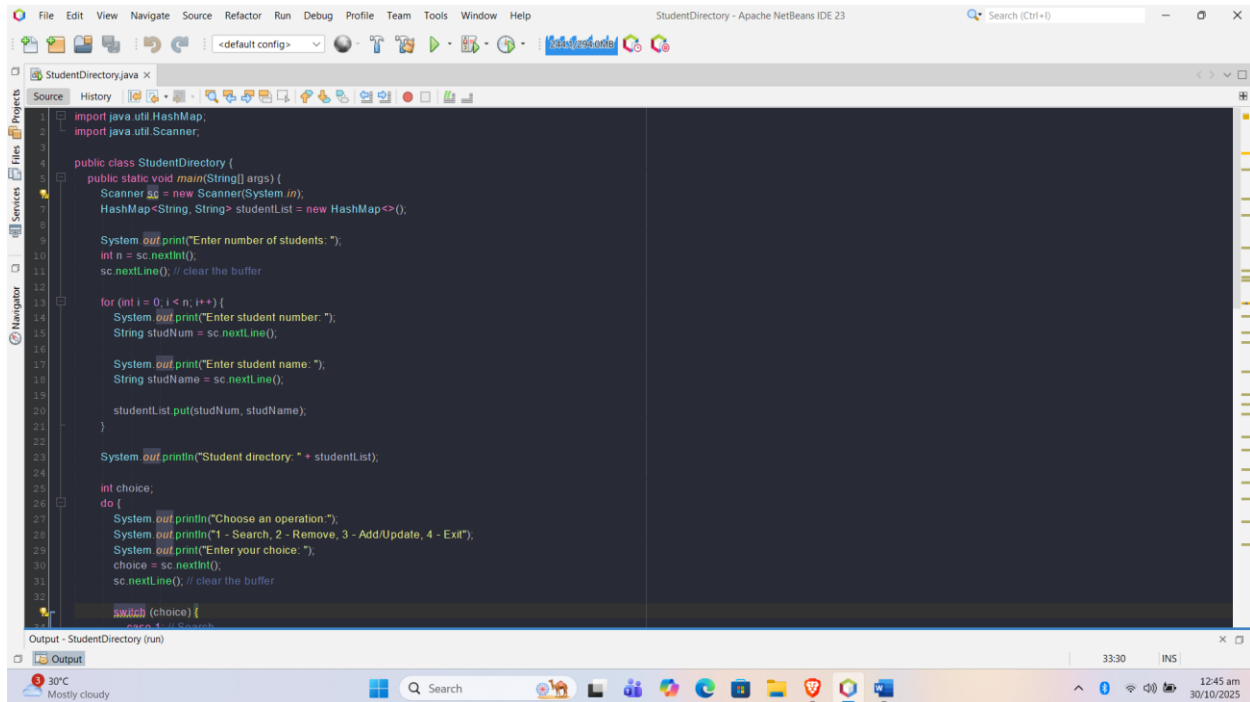


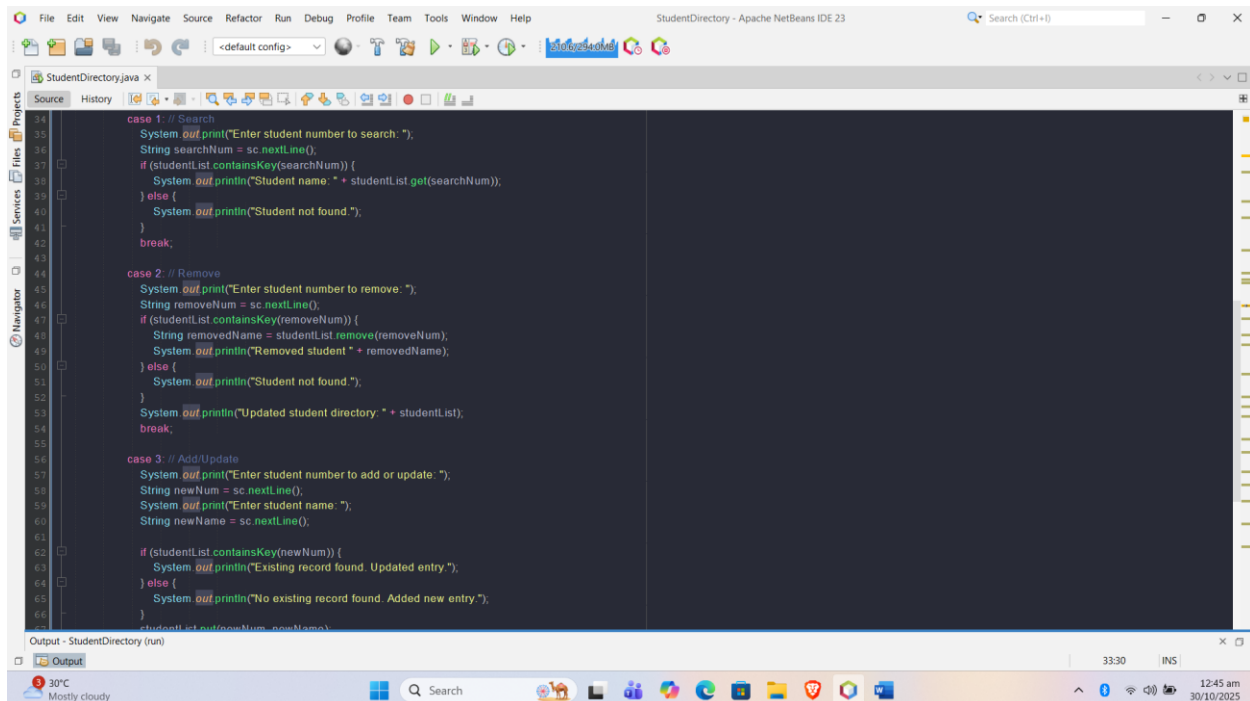
Code;



```
1 import java.util.HashMap;
2 import java.util.Scanner;
3
4 public class StudentDirectory {
5     public static void main(String[] args) {
6         Scanner sc = new Scanner(System.in);
7         HashMap<String, String> studentList = new HashMap<>();
8
9         System.out.println("Enter number of students: ");
10        int n = sc.nextInt();
11        sc.nextLine(); // clear the buffer
12
13        for (int i = 0; i < n; i++) {
14            System.out.println("Enter student number: ");
15            String studNum = sc.nextLine();
16
17            System.out.println("Enter student name: ");
18            String studName = sc.nextLine();
19
20            studentList.put(studNum, studName);
21        }
22
23        System.out.println("Student directory: " + studentList);
24
25        int choice;
26        do {
27            System.out.println("Choose an operation:");
28            System.out.println("1 - Search, 2 - Remove, 3 - Add/Update, 4 - Exit");
29            System.out.println("Enter your choice: ");
30            choice = sc.nextInt();
31            sc.nextLine(); // clear the buffer
32
33            switch (choice) {
34                case 1: // Search
```

Output - StudentDirectory (run)

33:30 INS 12:45 am 30/10/2025



```
35        System.out.println("Enter student number to search: ");
36        String searchNum = sc.nextLine();
37        if (studentList.containsKey(searchNum)) {
38            System.out.println("Student name: " + studentList.get(searchNum));
39        } else {
40            System.out.println("Student not found.");
41        }
42        break;
43
44        case 2: // Remove
45            System.out.println("Enter student number to remove: ");
46            String removeNum = sc.nextLine();
47            if (studentList.containsKey(removeNum)) {
48                String removedName = studentList.remove(removeNum);
49                System.out.println("Removed student " + removedName);
50            } else {
51                System.out.println("Student not found.");
52            }
53            System.out.println("Updated student directory: " + studentList);
54            break;
55
56        case 3: // Add/Update
57            System.out.println("Enter student number to add or update: ");
58            String newNum = sc.nextLine();
59            System.out.println("Enter student name: ");
60            String newName = sc.nextLine();
61
62            if (studentList.containsKey(newNum)) {
63                System.out.println("Existing record found. Updated entry.");
64            } else {
65                System.out.println("No existing record found. Added new entry.");
66            }
67            studentList.put(newNum, newName);
68        }
69    }
70 }
```

Output - StudentDirectory (run)

33:30 INS 12:45 am 30/10/2025

```
StudentDirectory.java x
Source History
64 break;
65
66 case 3: // Add/Update
67     System.out.print("Enter student number to add or update: ");
68     String newNum = sc.nextLine();
69     System.out.print("Enter student name: ");
70     String newName = sc.nextLine();
71
72     if (studentList.containsKey(newNum)) {
73         System.out.println("Existing record found. Updated entry.");
74     } else {
75         System.out.println("No existing record found. Added new entry.");
76     }
77     studentList.put(newNum, newName);
78     System.out.println("Updated student directory: " + studentList);
79     break;
80
81 case 4: // Exit
82     System.out.println("Exiting program.");
83     break;
84
85 default:
86     System.out.println("Invalid choice. Please try again.");
87 }
88 while (choice != 4);
89 sc.close();
90 }
91 }
```

Output

72:60 INS Windows (CRLF)

30°C Mostly cloudy Search 12:45 am 30/10/2025

Output

```
StudentDirectory (run)
run:
Enter number of students: 3
Enter student number: 02000345888
Enter student name: Justin Aduara
Enter student number: 2000344888
Enter student name: Lebron James
Enter student number: 2000334888
Enter student name: Cristiano Ronaldo
Student directory: {02000345888=Justin Aduara, 2000334888=Cristiano Ronaldo, 2000344888=Lebron James}
Choose an operation:
1 - Search, 2 - Remove, 3 - Add/Update, 4 - Exit
Enter your choice:
2
Enter student number to remove: 2000344888
Removed student Lebron James
Updated student directory: {02000345888=Justin Aduara, 2000334888=Cristiano Ronaldo}
Choose an operation:
1 - Search, 2 - Remove, 3 - Add/Update, 4 - Exit
Enter your choice:
```

StudentDirectory (run) running... 56:38 INS

12:48 am 30/10/2025