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CODE:

```
SampleJava.java x
1  import java.util.*;
2
3  7 usages
   class Student {
4      3 usages
       private int s_id;
5      2 usages
       private String s_name;
6      2 usages
       private String s_address;
7      2 usages
       private String s_course;
8      2 usages
       private int s_year;
9
10     1 usage
       public Student(int id, String name, String address, String course, int year) {
11         this.s_id = id;
12         this.s_name = name;
13         this.s_address = address;
14         this.s_course = course;
15         this.s_year = year;
16     }
17
18     no usages
       public int getStudentId() {
19         return s_id;
20     }
21
```

```
22 2 usages
23  public void displayInfo() {
24     System.out.println("Student ID: " + s_id);
25     System.out.println("Student Name: " + s_name);
26     System.out.println("Student Address: " + s_address);
27     System.out.println("Student Course: " + s_course);
28     System.out.println("Student Year: " + s_year + "\n");
29 }
30
31 2 usages
32  class Queue {
33     5 usages
34     private LinkedList<Student> list;
35
36     1 usage
37     public Queue() {
38         list = new LinkedList<>();
39     }
40
41     1 usage
42     public void enqueue(Student student) {
43         list.addLast(student);
44     }
45
46     1 usage
47     public Student dequeue() {
48         if (isEmpty()) {
49             System.out.println("Queue is empty.");
50             return null;
51         }
52         return list.removeFirst();
53     }
54 }
```

2 usages

```
50 public boolean isEmpty() {  
51     return list.isEmpty();  
52 }  
53
```

1 usage

```
54 public void displayQueue() {  
55     if (isEmpty()) {  
56         System.out.println("Queue is empty.");  
57     } else {  
58         for (Student student : list) {  
59             student.displayInfo();  
60             //System.out.println("-----");  
61         }  
62     }  
63 }  
64 }
```

```
67 public class SampleJava {
68     public static void main(String[] args) {
69         Scanner input = new Scanner(System.in);
70         Queue studentQueue = new Queue();
71
72         while (true) {
73             System.out.println("\n1 - Enqueue");
74             System.out.println("2 - Dequeue");
75             System.out.println("3 - Display");
76             System.out.println("4 - Exit");
77             System.out.print("\nEnter your #: ");
78             int choice = input.nextInt();
79
80             switch (choice) {
81                 case 1:
82                     System.out.println("\nEnter student ID: ");
83                     int sid = input.nextInt();
84                     input.nextLine(); // Consume the newline character
85                     System.out.println("Enter student name: ");
86                     String sname = input.nextLine();
87                     System.out.println("Enter student address: ");
88                     String saddress = input.nextLine();
89                     System.out.println("Enter student course: ");
90                     String scourse = input.nextLine();
91                     System.out.println("Enter student year: ");
92                     int syyear = input.nextInt();
93
94                     Student newStudent = new Student(sid, sname, saddress, scourse, syyear);
95                     studentQueue.enqueue(newStudent);
96                     break;
```

```
96
97     case 2:
98         Student dequeuedStudent = studentQueue.dequeue();
99         if (dequeuedStudent != null) {
100             System.out.println("\nDequeued Student:\n");
101             dequeuedStudent.displayInfo();
102         }
103         break;
104
105     case 3:
106         System.out.println("\nCurrent Queue:\n");
107         studentQueue.displayQueue();
108         break;
109
110     case 4:
111         System.exit( status: 0);
112
113     default:
114         System.out.println("Invalid choice. Please try again.");
115 }
116 }
117 }
118 }
```

OUTPUT:

```
1 - Enqueue
2 - Dequeue
3 - Display
4 - Exit
```

Enter #: 1

Enter student ID:

123456

Enter student name:

Jay

Enter student address:

Batasan

Enter student course:

BSCPE

Enter student year:

2

```
1 - Enqueue
2 - Dequeue
3 - Display
4 - Exit
```

Enter #: 1

Enter student ID:

789876

Enter student name:

Mark

Enter student address:

San Mateo

Enter student course:

BSCE

Enter student year:

1

```
1 - Enqueue
2 - Dequeue
3 - Display
4 - Exit
```

Enter #: 1

Enter student ID:

456873

Enter student name:

Kino

Enter student address:

Marikina

Enter student course:

BSME

Enter student year:

4

- 1 - Enqueue
- 2 - Dequeue
- 3 - Display
- 4 - Exit

Enter #: 1

Enter student ID:

236485

Enter student name:

Cham

Enter student address:

Sauyo

Enter student course:

BSCPE

Enter student year:

2

- 1 - Enqueue
- 2 - Dequeue
- 3 - Display
- 4 - Exit

Enter #: 3

Current Queue:

Student ID: 123456

Student Name: Jay

Student Address: Batasan

Student Course: BSCPE

Student Year: 2

Student ID: 789876

Student Name: Mark

Student Address: San Mateo

Student Course: BSCE

Student Year: 1

Student ID: 456873

Student Name: Kino

Student Address: Marikina

Student Course: BSME

Student Year: 4

Student ID: 236485

Student Name: Cham

Student Address: Sauyo

Student Course: BSCPE

Student Year: 2

- 1 - Enqueue
- 2 - Dequeue
- 3 - Display
- 4 - Exit

Enter #: 2

Dequeued Student:

Student ID: 123456

Student Name: Jay

Student Address: Batasan

Student Course: BSCPE

Student Year: 2

- 1 - Enqueue
- 2 - Dequeue
- 3 - Display
- 4 - Exit

Enter #: 3

Current Queue:

Student ID: 789876

Student Name: Mark

Student Address: San Mateo

Student Course: BSCE

Student Year: 1

Student ID: 456873

Student Name: Kino

Student Address: Marikina

Student Course: BSME

Student Year: 4

Student ID: 236485

Student Name: Cham

Student Address: Sauyo

Student Course: BSCPE

Student Year: 2

- 1 - Enqueue
- 2 - Dequeue
- 3 - Display
- 4 - Exit

Enter #: 1

Enter student ID:

872493

Enter student name:

Rob

Enter student address:

Makati

Enter student course:

BSCS

Enter student year:

2

- 1 - Enqueue
- 2 - Dequeue
- 3 - Display
- 4 - Exit

Enter #: 2

Dequeued Student:

Student ID: 789876

Student Name: Mark

Student Address: San Mateo

Student Course: BSCE

Student Year: 1

- 1 - Enqueue
- 2 - Dequeue
- 3 - Display
- 4 - Exit

Enter #: 3

Current Queue:

Student ID: 456873

Student Name: Kino

Student Address: Marikina

Student Course: BSME

Student Year: 4

Student ID: 236485

Student Name: Cham

Student Address: Sauyo

Student Course: BSCPE

Student Year: 2

Student ID: 872493

Student Name: Rob

Student Address: Makati

Student Course: BSCS

Student Year: 2

- 1 - Enqueue
- 2 - Dequeue
- 3 - Display
- 4 - Exit

Enter #: 4

Process finished with exit code 0