/*You are building a system for a hospital's emergency room. Patients are registered and added to a waiting list in the order they arrive. Each patient has:

• A patient ID

• A name

• A severity level

Operations:

Insert patient at the end (when they arrive).

Delete patient at a given position (if they leave).

Display current queue.

*/

```
import java.util.*;
class Node
{
   int pat_id;
   String pat_name;
   String pat_sev;
   Node prev;
   Node next;
   public Node(int pat_id,String pat_name,String pat_sev)
   {
      this.pat_id=pat_id;
      this.pat_name=pat_name;
      this.pat_sev=pat_sev;
      this.prev=null;
      this.next=null;
   }

}
public class july9ht
{
   Node head;
```

```
public void insert(int pat_id,String pat_name,String pat_sev)
{


    Node newNode=new Node(pat_id,pat_name,pat_sev);
    if(head==null)
    {
       head=newNode;
       return;
    }
    Node temp=head;
    while(temp.next!=null)
    {
       temp=temp.next;


    }
    temp.next=newNode;
    newNode.prev=temp;


  }
  public void display()
  {
    if(head==null)
    {
       System.out.println("No patient in the que");
       return;
    }
    Node temp=head;
    System.out.println("****The patient que****");
    while(temp!=null)
    {
```

```
            System.out.println("\nPatient Id:"+temp.pat_id+"\nPatient
Name:"+temp.pat_name+"\nPatient severity:"+temp.pat_sev);
            temp=temp.next;



        }
    }
    public void delete(int pos)
    {
        if (head==null || pos<0)
        {
            System.out.println("Invalid");
            return;
        }

        Node temp=head;
        for(int i=0; i<pos-1&&temp!=null;i++)
        {
            temp=temp.next;
        }
        if(temp==null)
        {
            System.out.println(" Not found");
            return;
        }
        if(temp.prev!=null)
        {
            temp.prev.next=temp.next;
        }
        else
        {
```

```
            head=temp.next;


        }
        if(temp.next!=null)
        {
            temp.next.prev=temp.prev;
        }
        System.out.println("Patient id:  "+temp.pat_id+" left the que");
    }
    public static void main(String[]args)
    {
        july9ht pm=new july9ht();
        Scanner sc=new Scanner(System.in);
        int choice;
        do
        {
        System.out.println("1.Book appointment for patient\n2.Click for leaving\n3.Patient
que\n4.Exit");
        System.out.println("Enter the choice");
        choice=sc.nextInt();
        sc.nextLine();
        switch (choice)
        {
            case 1:
                System.out.println("Enter the patient id");
                int pat_id=sc.nextInt();
                sc.nextLine();
                System.out.println("Enter the patient name");
                String pat_name=sc.nextLine();
                System.out.println("Enter the patient severity");
                String pat_sev=sc.nextLine();
```

```
            pm.insert(pat_id,pat_name,pat_sev);
            break;
        case 2:
            System.out.println("Enter the position of the patient to leave the que");
            int pos=sc.nextInt();
            pm.delete(pos);
            break;
        case 3:
            pm.display();
            break;
        case 4:
            System.out.println("---Exiting---");
            break;
        default:
            System.out.println("Invalid input");
            break;
    }
    }while(choice!=4);

}



}
```