```
/*1. You are asked to implement a basic student management system where
each student has a roll number and name. Use a singly linked list to
manage student records.
You should implement the following operations:
• Insert at the beginning
• Insert at the end
• Insert at a specific position
*/

import java.util.*;
class Node
{
   int rollno;
   String name;
   Node next;
}
public class july7ht
{
   Node head;
   void insertAtFront(int rollno,String name)
   {
      Node newNode=new Node();
      newNode.rollno=rollno;
      newNode.name=name;
      newNode.next=head;
      head=newNode;

   }
   void insertAtEnd(int rollno,String name)
   {
```

```
    Node newNode=new Node();
    newNode.rollno=rollno;
    newNode.name=name;
    newNode.next=null;
    if(head==null)
    {

        head=newNode;
    }
    else
    {



    Node temp=head;
    while(temp.next!=null)
    {
       temp=temp.next;
    }
    temp.next=newNode;
}
}
void insertAtPosition(int rollno,String name,int pos)
{
    Node newNode=new Node();
    newNode.rollno=rollno;
    newNode.name=name;
    if(pos==0)
    {
       newNode.next=head;
       head=newNode;
       return;
```

```
    }
    Node temp=head;
    int index=0;
    while(temp!=null&&index<pos-1)
    {
       temp=temp.next;
       index++;

    }
    if(temp==null)
    {
       System.out.println("No position exist");
       return;
    }
    newNode.next=temp.next;
    temp.next=newNode;

}
void display()
{
    Node temp=head;
    while(temp!=null)
    {
       System.out.print("Rollno:"+temp.rollno+":"+" Name:"+temp.name+"->");
       temp=temp.next;
    }
    System.out.println("The latest student is updated");
}
public static void main(String[]args)
{
    july7ht il=new july7ht();
```

```
Scanner sc=new Scanner(System.in);
int choice;
do
{
   System.out.println("\n1.Insert at front\n2.Insert at end\n3.Insert At position\n4.Display\n5.exit");
   System.out.println("Enter the choice");
   {
      choice=sc.nextInt();
      sc.nextLine();
      int rollno, pos;
      String name;
      switch(choice)

      {
         case 1:
            System.out.println("Enter the roll no of the student at front");
            rollno=sc.nextInt();
            sc.nextLine();
            System.out.println("Enter the name of the student at the front");
             name=sc.nextLine();
            il.insertAtFront(rollno,name);
            break;

         case 2:
            System.out.println("Enter the roll no of the student at the end");
            rollno=sc.nextInt();
            sc.nextLine();
            System.out.println("Enter the name of the student at the front");
             name=sc.nextLine();
            il.insertAtEnd(rollno,name);
```

```
                break;
            case 3:
                System.out.println("Enter the roll no of the student at the position");
                 rollno=sc.nextInt();
                sc.nextLine();
                System.out.println("Enter the name of the student at the position");
                 name=sc.nextLine();
                System.out.println("Enter the position of the student at the position");
                 pos=sc.nextInt();
                il.insertAtPosition(rollno,name,pos);
                break;
            case 4:
                System.out.println("The list of students");
                il.display();
                break;
            case 5:
                System.out.println("--Exiting---");

        }
      }
   }while(choice!=5);
}
}
```