Q1. insert data at starting of the doubly linked list:

/\*

\* To change this license header, choose License Headers in Project Properties.

\* To change this template file, choose Tools | Templates

\* and open the template in the editor.

\*/

package dsafeb2025;

/\*\*

\*

\* @author manis

\*/

public class Dnode {

Dnode prev;

int data;

Dnode next;

public Dnode(int data){

prev=null;

this.data=data;

next=null;

System.out.println("Node Created in Doubly Linkend list");

}

public void display(Dnode head) {

Dnode temp = head;

while (temp != null) {

System.out.print("======>" + temp.data);

temp = temp.next;

}

}

public Dnode addNodeAtStart(Dnode head, int data){

//Step1: Create a new Node

Dnode newNode = new Dnode(data);

//Step2: Make point newNode to current Node

head.prev=newNode;

newNode.next = head;

newNode.prev = null;

// Step3: Update head

head = newNode;

//Step4: return new head

return head;

}

public void printForwardData(Dnode head){

Dnode temp = head;

while(temp!=null){

System.out.print("===>"+temp.data);

temp = temp.next;

}

}

public void printBackwordData(Dnode tail){

Dnode temp = tail;

while(temp!=null){

System.out.print("===>"+temp.data);

temp = temp.prev;

}

}

public static void main(String[] args) {

Dnode f1=new Dnode(10);

Dnode f2=new Dnode(20);

Dnode f3=new Dnode(30);

Dnode f4=new Dnode(40);

f1.next = f2;

f2.prev = f1;

f2.next = f3;

f3.prev = f2;

f3.next = f4;

f4.prev = f3;

Dnode head=f1;

Dnode tail = f4;

System.out.println("Print data of doubly linked list in forward direction");

head.printForwardData(head);

System.out.println("\nPrint data of doubly linked list in backword direction");

head.printBackwordData(tail);

System.out.println("\nPrint data aftera adding new node at start");

head = head.addNodeAtStart(head, 5);

head.display(head);

}

}

**.Output:**

