2.Write a program to check if given linked list has a loop or not.

import java.util.\*;

public class LinkedList {

static Node head;

static class Node {

int data;

Node next;

Node(int d)

{

data = d;

next = null;

}

}

static public void push(int new\_data)

{

Node new\_node = new Node(new\_data);

new\_node.next = head;

head = new\_node;

}

static boolean detectLoop(Node h)

{

HashSet<Node> s = new HashSet<Node>();

while (h != null) {

if (s.contains(h))

return true;

s.add(h);

h = h.next;

}

return false;

}

public static void main(String[] args)

{

LinkedList llist = new LinkedList();

llist.push(20);

llist.push(4);

llist.push(15);

llist.push(10);

llist.head.next.next.next.next = llist.head;

if (detectLoop(head))

System.out.println("Loop found");

else

System.out.println("No Loop");

}

}

OUTPUT:

