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In a college library, students return books one by one. The librarian places each returned book on top of a return stack for sorting and re-shelving. The last book returned must be processed first, hence the Last-In-First-Out (LIFO) approach.

Implement this book return stack using a linked list-based stack in Java.

Push: Add a returned book to the stack.

Pop: Process and remove the top book from the stack.

Peek: View the latest returned book.

Display: List all returned books from top to bottom.*/

```
package julyhometask;
import java.util.*;
class LibraryNode
{
	String book;
	LibraryNode next;
	LibraryNode(String book)
	{
		this.book=book;
		this.next=null;
	}
}
public class july21ht
{
	LibraryNode top;
	july21ht()
	{
		this.top=null;
	}
	public void push(String book)
	{
		LibraryNode newNode=new LibraryNode(book);
```

```
            newNode.next=top;
            top=newNode;
            System.out.println("The book  "+ book+" is replaced at top successfully");

    }
    public void pop()
    {
            if(top==null)
            {
                    System.out.println("There is no book in the library");
                    return;
            }
            String topValue=top.book;
            top=top.next;
            System.out.println("The "+ topValue+" book is removed and given to a new
customer");


    }
    String peek()
    {
            if(top==null)
            {
                    System.out.println("The library has no books");
                    return "-1";

            }
            return top.book;

    }
    public void display()
```

```
	{
		if(top==null)
		{
			System.out.println("The library is empty");
			return;
		}
		LibraryNode temp=top;
		System.out.println("The current books available in the library is:");
		while(temp!=null)
		{
			System.out.println(temp.book+"\n");
			temp=temp.next;
		}
		System.out.println("The last book is reached");
	}
	public static void main(String[] args)
	{
		july21ht lb=new july21ht();
		Scanner sc=new Scanner(System.in);
		int choice;
		do
		{
			System.out.println("1.Insert the given books\n2.Give the book to new customer\n3.Display the most prioritized book\n4.See all the available books\n5.Exit");
			System.out.println("Enter the choice");
			choice=sc.nextInt();
			sc.nextLine();
			switch(choice)
			{
			case 1:
				System.out.println("Enter the name of the book given by the old customer");
```

```
                    String book=sc.nextLine();
                    lb.push(book);
                    break;
                case 2:
                    lb.pop();
                    break;
                case 3:
                    String top=lb.peek();
                    System.out.println("The most prioritzed book is:"+top);
                    break;
                case 4:
                    lb.display();
                    break;
                case 5:
                    System.out.println("The library system is exiting..Thank you..Visit us
again--------");
                    break;
                default:
                    System.out.println("Invalid option");
                    break;
                }
            }while(choice!=5);

}
}
```