

Kathmandu University
Department of Computer Science and Engineering
Dhulikhel, Kavre



COMP-202

LAB WORK-1

Submitted By:

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Group: Computer Engineering

Level: 2nd Year First Semester

Submitted to:

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Screenshot of lab work are attached below

1)

```
PS F:\github\dsa> g++ lab1.cpp
PS F:\github\dsa> ./a.exe
Checking whether list is empty or not
Empty List
```

First question is to check whether list is empty or not. Since only list was created at first. No data was there so it showed empty list.

2)

```
New Node 50 added to empty linked list
Your Linked List is: 50
```

In second question element was added to empty linked list. After that 60 was added to head.

```
New Node 50 added to empty linked list
Your Linked List is: 50

Data: 60 added to head
Your Linked List is: 60      50
```

3)

```
New Node with data 70 added successfully to TAIL
Your Linked List is: 60      50      70

New Node with data 80 added successfully to TAIL
Your Linked List is: 60      50      70      80
```

In third question, we are asked to add element to tail. Here 70 and 80 are added to tail.

4)

```
new node 40 added successfully after 50
Your Linked List is: 60      50      40      70      80
```

```
new node 100 added successfully after 40
Your Linked List is: 60      50      40      100      70      80
First Node deleted successfully
```

In forth question we are asked to add data after predecessor node. so 100 was added after 40 here.

5)

```
First Node deleted successfully
Your Linked List is: 50      40      100      70      80
```

In fifth question we are asked to remove data from head. Here, head was 60 and after deleting from head 60 was removed successfully and output was shown

6)

```
Your Linked List is: 60      50      40      100      70      80
First Node deleted successfully
Your Linked List is: 50      40      100      70      80
```

In sixth question we are asked to remove node from head. Here first node was deleted successfully.

7)

```
Pointer of selected node is: 0xf66e68  
Pointer of selected node is: 0xf66e78
```

In seventh question, We are asked to retrieve the pointer from the node containing requested data. It showed the pointer of data 40 and 100.

8)

```
Your Linked List is: 50      40      100      70      80      70 found in the list  
80 found in the list
```

In eighth question, we are asked to search data from the linked list. In this program, we searched 70 and 80 from the linked list. Since both 70 and 80 are present in the linked list, it showed the result.

9)

```
Checking whether list is empty or not  
Non empty list
```

In last question we are asked to find to traverse the list. To check whether list is empty or not, we need to visit each node and check whether there is data or not.

```
PS F:\github\dsa> g++ lab1.cpp
PS F:\github\dsa> ./a.exe
Checking whether list is empty or not
Empty List

New Node 50 added to empty linked list

Your Linked List is: 50

Data: 60 added to head

Your Linked List is: 60      50

New Node with data 70 added successfully to TAIL

Your Linked List is: 60      50      70

New Node with data 80 added successfully to TAIL

Your Linked List is: 60      50      70      80      Pointer of selected node is: 0x7a15b0

new node 40 added successfully after 50

Your Linked List is: 60      50      40      70      80      Pointer of selected node is: 0x7a6e68

new node 100 added successfully after 40

Your Linked List is: 60      50      40      100      70      80

First Node deleted successfully

Your Linked List is: 50      40      100      70      80

Your Linked List is: 50      40      100      70      80      Pointer of selected node is: 0x7a6e68

Pointer of selected node is: 0x7a6e78

70 found in the list

80 found in the list

Checking whether list is empty or not
Non empty list
PS F:\github\dsa> []
```

Github repository link: [SamirWagle/dsa \(github.com\)](https://github.com/SamirWagle/dsa)
<https://github.com/SamirWagle/dsa>