## Kathmandu University Department of Computer Science and Engineering Dhulikhel, Kavre



**COMP-202** 

**LAB WORK-1** 

**Submitted By:** 

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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
```

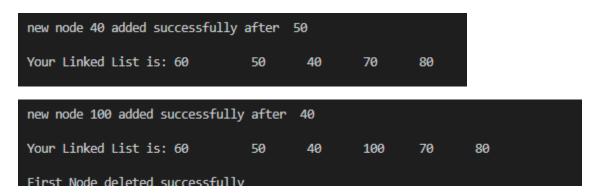
**3**)

```
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**)



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

**5**)



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**)



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
```

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> ./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
                                     70
                                               80
                                                       Pointer of selected node is: 0x7a15b0
new node 40 added successfully after 50
Your Linked List is: 60
                                50
                                       40
                                               70
                                                               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
                                               70
                                                               Pointer of selected node is: 0x7a6e68
                                       100
                                                       80
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> []
```

PS F:\github\dsa> g++ lab1.cpp

Github repository link: SamirWagle/dsa (github.com)

 $\underline{https://github.com/SamirWagle/dsa}$