



<u>Name</u>	<i><u>Muddassir Ali Siddiqui</u></i>
<u>Instructor</u>	<i><u>Miss Hira Sohail</u></i>
<u>Date</u>	<i><u>16th July 2025</u></i>

1. In-Lab Tasks: (Write your lab task & screenshots here)

i. Task 1:

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
• [cc@ncdc-0063 codes]$ gcc lab6_task1.c -o task1
○ [cc@ncdc-0063 codes]$ ./task1

----- Task Manager Menu -----:
Press 1 for Add a New Task.
Press 2 for Remove task.
Press 3 for Display task.
Press 4 for Update task.
Press 5 for Exit.
1
Enter description: enroll the student.
Enter priority (1=High, 2=Med, 3=Low): 1

Enter due date (format: YYYY MM DD)

Enter year: 2025
Enter month: 07
Enter day: 01
The new task is added successfully!

----- Task Manager Menu -----:
Press 1 for Add a New Task.
Press 2 for Remove task.
Press 3 for Display task.
Press 4 for Update task.
Press 5 for Exit.
1
Enter description: assign the lab.
Enter priority (1=High, 2=Med, 3=Low): 1

Enter due date (format: YYYY MM DD)

Enter year: 2025
Enter month: 07
Enter day: 07
The new task is added successfully!

----- Task Manager Menu -----:
Press 1 for Add a New Task.
Press 2 for Remove task.
Press 3 for Display task.
Press 4 for Update task.
Press 5 for Exit.
1
Enter description: assign the assignments.
Enter priority (1=High, 2=Med, 3=Low): 1

Enter due date (format: YYYY MM DD)

Enter year: 2025
Enter month: 07
Enter day: 10
The new task is added successfully!
```

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

----- Task Manager Menu -----:
Press 1 for Add a New Task.
Press 2 for Remove task.
Press 3 for Display task.
Press 4 for Update task.
Press 5 for Exit.
1
Enter description: take exam.
Enter priority (1=High, 2=Med, 3=Low): 3

Enter due date (format: YYYY MM DD)

Enter year: 2025
Enter month: 07
Enter day: 25
The new task is added successfully!

----- Task Manager Menu -----:
Press 1 for Add a New Task.
Press 2 for Remove task.
Press 3 for Display task.
Press 4 for Update task.
Press 5 for Exit.
3

----- Node List -----

Description: enroll the student.
Priority: 1
Due Date: 2025-07-01

Description: assign the lab.
Priority: 1
Due Date: 2025-07-07

Description: assign the assignments.
Priority: 1
Due Date: 2025-07-10

Description: take exam.
Priority: 3
Due Date: 2025-07-25

----- Task Manager Menu -----:
Press 1 for Add a New Task.
Press 2 for Remove task.
Press 3 for Display task.
Press 4 for Update task.
Press 5 for Exit.
4
Enter description to update: assign the lab.
Enter new priority: 3
Enter new due date (YYYY MM DD): 2025
07
07
```

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORT
The Output (Ctrl+K Ctrl+H) successfully!

----- Task Manager Menu -----:
Press 1 for Add a New Task.
Press 2 for Remove task.
Press 3 for Display task.
Press 4 for Update task.
Press 5 for Exit.
3

----- Node List -----

Description: enroll the student.
Priority: 1
Due Date: 2025-07-01

Description: assign the lab.
Priority: 3
Due Date: 2025-07-07

Description: assign the assignments.
Priority: 1
Due Date: 2025-07-10

Description: take exam.
Priority: 3
Due Date: 2025-07-25

----- Task Manager Menu -----:
Press 1 for Add a New Task.
Press 2 for Remove task.
Press 3 for Display task.
Press 4 for Update task.
Press 5 for Exit.
1
Enter description: entrance test.
Enter priority (1=High, 2=Med, 3=Low): 3

Enter due date (format: YYYY MM DD)

Enter year: 2025
Enter month: 05
Enter day: 01
The new task is added successfully!

----- Task Manager Menu -----:
Press 1 for Add a New Task.
Press 2 for Remove task.
Press 3 for Display task.
Press 4 for Update task.
Press 5 for Exit.
3

----- Node List -----

Description: entrance test.
Priority: 3
Due Date: 2025-05-01

Description: enroll the student.
Priority: 1
Due Date: 2025-07-01

Description: assign the lab.
Priority: 3
Due Date: 2025-07-07

Description: assign the assignments.
Priority: 1
Due Date: 2025-07-10

Description: take exam.
Priority: 3
Due Date: 2025-07-25

----- Task Manager Menu -----:
Press 1 for Add a New Task.
Press 2 for Remove task.
Press 3 for Display task.
Press 4 for Update task.
Press 5 for Exit.
3

----- Node List -----
```

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORT
----- Task Manager Menu -----:
Press 1 for Add a New Task.
Press 2 for Remove task.
Press 3 for Display task.
Press 4 for Update task.
Press 5 for Exit.
1
Enter description: entrance test.
Enter priority (1=High, 2=Med, 3=Low): 3

Enter due date (format: YYYY MM DD)

Enter year: 2025
Enter month: 05
Enter day: 01
The new task is added successfully!

----- Task Manager Menu -----:
Press 1 for Add a New Task.
Press 2 for Remove task.
Press 3 for Display task.
Press 4 for Update task.
Press 5 for Exit.
3

----- Node List -----

Description: entrance test.
Priority: 3
Due Date: 2025-05-01

Description: enroll the student.
Priority: 1
Due Date: 2025-07-01

Description: assign the lab.
Priority: 3
Due Date: 2025-07-07

Description: assign the assignments.
Priority: 1
Due Date: 2025-07-10

Description: take exam.
Priority: 3
Due Date: 2025-07-25

----- Task Manager Menu -----:
Press 1 for Add a New Task.
Press 2 for Remove task.
Press 3 for Display task.
Press 4 for Update task.
Press 5 for Exit.
```

ii. Task 2:

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
• [cc@ncdc-0063 codes]$ ls
lab6_task1.c lab6_task2.c lab6_task3.c task1 task2
• [cc@ncdc-0063 codes]$ gcc lab6_task2.c -o task2
• [cc@ncdc-0063 codes]$ ./task2
Program to Maintain a List of Names
Options available
I - Insert a name into the list
D - Delete a name from the list
C - Count the number of items on the list
F - Move an item to the front of the list
L - Print the last item on the list (iteratively)
M - Print the last item on the list (recursively)
P - Print the names on the list (iteratively)
S - Print the names on the list (recursively)
R - Print the names in reverse order
Q - Quit
Enter desired option: i
Enter name to be inserted into list: muddassir
muddassir inserted into the list

Options available
I - Insert a name into the list
D - Delete a name from the list
C - Count the number of items on the list
F - Move an item to the front of the list
L - Print the last item on the list (iteratively)
M - Print the last item on the list (recursively)
P - Print the names on the list (iteratively)
S - Print the names on the list (recursively)
R - Print the names in reverse order
Q - Quit
Enter desired option: 1
Invalid Option - Try Again!
Options available
I - Insert a name into the list
D - Delete a name from the list
C - Count the number of items on the list
F - Move an item to the front of the list
L - Print the last item on the list (iteratively)
M - Print the last item on the list (recursively)
P - Print the names on the list (iteratively)
S - Print the names on the list (recursively)
R - Print the names in reverse order
Q - Quit
Enter desired option: i
Enter name to be inserted into list: ali
Enter old name which new name should precede,
or enter ? if new name should be placed last: ?
ali inserted into the list

Options available
I - Insert a name into the list
D - Delete a name from the list
C - Count the number of items on the list
F - Move an item to the front of the list
L - Print the last item on the list (iteratively)
```

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

Options available
I - Insert a name into the list
D - Delete a name from the list
C - Count the number of items on the list
F - Move an item to the front of the list
L - Print the last item on the list (iteratively)
M - Print the last item on the list (recursively)
P - Print the names on the list (iteratively)
S - Print the names on the list (recursively)
R - Print the names in reverse order
Q - Quit
Enter desired option: i
Enter name to be inserted into list: siddiqui
Enter old name which new name should precede,
or enter ? if new name should be placed last: ?
siddiqui inserted into the list

Options available
I - Insert a name into the list
D - Delete a name from the list
C - Count the number of items on the list
F - Move an item to the front of the list
L - Print the last item on the list (iteratively)
M - Print the last item on the list (recursively)
P - Print the names on the list (iteratively)
S - Print the names on the list (recursively)
R - Print the names in reverse order
Q - Quit
Enter desired option: muddasssir_ali
Last item in the list: siddiqui

Options available
I - Insert a name into the list
D - Delete a name from the list
C - Count the number of items on the list
F - Move an item to the front of the list
L - Print the last item on the list (iteratively)
M - Print the last item on the list (recursively)
P - Print the names on the list (iteratively)
S - Print the names on the list (recursively)
R - Print the names in reverse order
Q - Quit
Enter desired option: 1
Invalid Option - Try Again!
Options available
I - Insert a name into the list
D - Delete a name from the list
C - Count the number of items on the list
F - Move an item to the front of the list
L - Print the last item on the list (iteratively)
M - Print the last item on the list (recursively)
P - Print the names on the list (iteratively)
S - Print the names on the list (recursively)
R - Print the names in reverse order
Q - Quit
```

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
blems (Ctrl+Shift+M) names in reverse order
Q - Quit
Enter desired option: muddassir
Last item in the list: siddiqui

Options available
I - Insert a name into the list
D - Delete a name from the list
C - Count the number of items on the list
F - Move an item to the front of the list
L - Print the last item on the list (iteratively)
M - Print the last item on the list (recursively)
P - Print the names on the list (iteratively)
S - Print the names on the list (recursively)
R - Print the names in reverse order
Q - Quit
Enter desired option: c
Number of items in the list: 3

Options available
I - Insert a name into the list
D - Delete a name from the list
C - Count the number of items on the list
F - Move an item to the front of the list
L - Print the last item on the list (iteratively)
M - Print the last item on the list (recursively)
P - Print the names on the list (iteratively)
S - Print the names on the list (recursively)
R - Print the names in reverse order
Q - Quit
Enter desired option: f
Enter name to move to front: ali
ali moved to the front of the list.

Options available
I - Insert a name into the list
D - Delete a name from the list
C - Count the number of items on the list
F - Move an item to the front of the list
L - Print the last item on the list (iteratively)
M - Print the last item on the list (recursively)
P - Print the names on the list (iteratively)
S - Print the names on the list (recursively)
R - Print the names in reverse order
Q - Quit
Enter desired option: l
Last item in the list: siddiqui

Options available
I - Insert a name into the list
D - Delete a name from the list
C - Count the number of items on the list
F - Move an item to the front of the list
L - Print the last item on the list (iteratively)
M - Print the last item on the list (recursively)
P - Print the names on the list (iteratively)

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
L - Print the last item on the list (iteratively)
M - Print the last item on the list (recursively)
P - Print the names on the list (iteratively)
S - Print the names on the list (recursively)
R - Print the names in reverse order
Q - Quit
Enter desired option: m
Last item in the list: siddiqui

Options available
I - Insert a name into the list
D - Delete a name from the list
C - Count the number of items on the list
F - Move an item to the front of the list
L - Print the last item on the list (iteratively)
M - Print the last item on the list (recursively)
P - Print the names on the list (iteratively)
S - Print the names on the list (recursively)
R - Print the names in reverse order
Q - Quit
Enter desired option: r
siddiqui
muddassir
ali

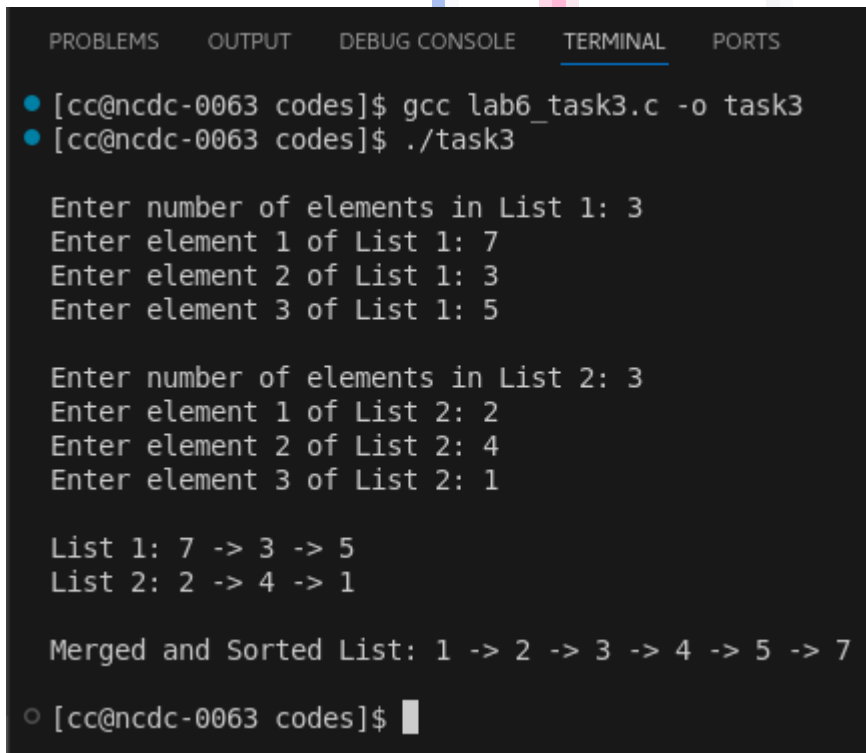
End of Reverse List

Options available
I - Insert a name into the list
D - Delete a name from the list
C - Count the number of items on the list
F - Move an item to the front of the list
L - Print the last item on the list (iteratively)
M - Print the last item on the list (recursively)
P - Print the names on the list (iteratively)
S - Print the names on the list (recursively)
R - Print the names in reverse order
Q - Quit
Enter desired option: s
ali
muddassir
siddiqui

End of List

Options available
I - Insert a name into the list
D - Delete a name from the list
C - Count the number of items on the list
F - Move an item to the front of the list
L - Print the last item on the list (iteratively)
M - Print the last item on the list (recursively)
P - Print the names on the list (iteratively)
S - Print the names on the list (recursively)
R - Print the names in reverse order
Q - Quit
```

iii. Task 3:



```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

• [cc@ncdc-0063 codes]$ gcc lab6_task3.c -o task3
• [cc@ncdc-0063 codes]$ ./task3

Enter number of elements in List 1: 3
Enter element 1 of List 1: 7
Enter element 2 of List 1: 3
Enter element 3 of List 1: 5

Enter number of elements in List 2: 3
Enter element 1 of List 2: 2
Enter element 2 of List 2: 4
Enter element 3 of List 2: 1

List 1: 7 -> 3 -> 5
List 2: 2 -> 4 -> 1

Merged and Sorted List: 1 -> 2 -> 3 -> 4 -> 5 -> 7

○ [cc@ncdc-0063 codes]$
```

2. Critical Analysis: (*Write you critical analysis / conclusion here*)

A linked list is a linear data structure that stores a sequence of elements called nodes, where each node contains data and a reference (or link) to the next node in the sequence. In this lab we learn how to add, delete and update the linked list.