

CL2001 – Data Structure Lab

Exercise # 07

Note:

- Copied task will be awarded **zero** marks.
- Use comments wherever applicable.
- Note that these lab task marks could be graded through a viva in lab.
- Variables and functions names should be meaningful.

Problem: 1 | Queue using Linked List

Provide Linked List base implementation of queue. It should have the following functions:

1. Enqueue()
2. Dequeue()
3. Isempty()

Problem: 2 | Duplicate Queue Data using Linked List

Create a function that will duplicate the nodes of the Queue depending on data in the queue.

For example,

if the data in the queue is 3 it is to be duplicated 3 more time

Input Queue: 3->4->5

Output Queue: 3->3->3->4->4->4->4->5->5->5->5->5

Problem: 3 | Keep Employee Record using Queue

Suppose you are the technical manager of an organization; Your boss has given you a task to store the records of Employees.

You have decided to keep the records using Linked List based Queue.

Employee record:

1. Employee ID
2. Employee Name
3. Employee Salary

You need to take input the of employee record (name, id, salary)



Secondly keep taking input until the user enters the sentinel value. As soon as input is complete then show the employee record in the sequence as the record were entered

Sample Output:

```
usman@usman:~/data-structure/queues$ ./emp-record-using-queue
Employee Record Details:
1      Emp ID:6049      Name:Ali      Salary:50000
2      Emp ID:5438      Name:Hamza    Salary:40000
3      Emp ID:8743      Name:Zain     Salary:60000
4      Emp ID:4529      Name:Noman    Salary:70000
```