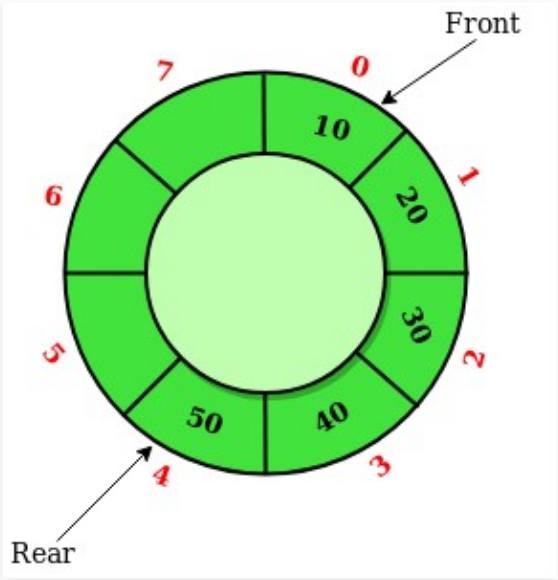
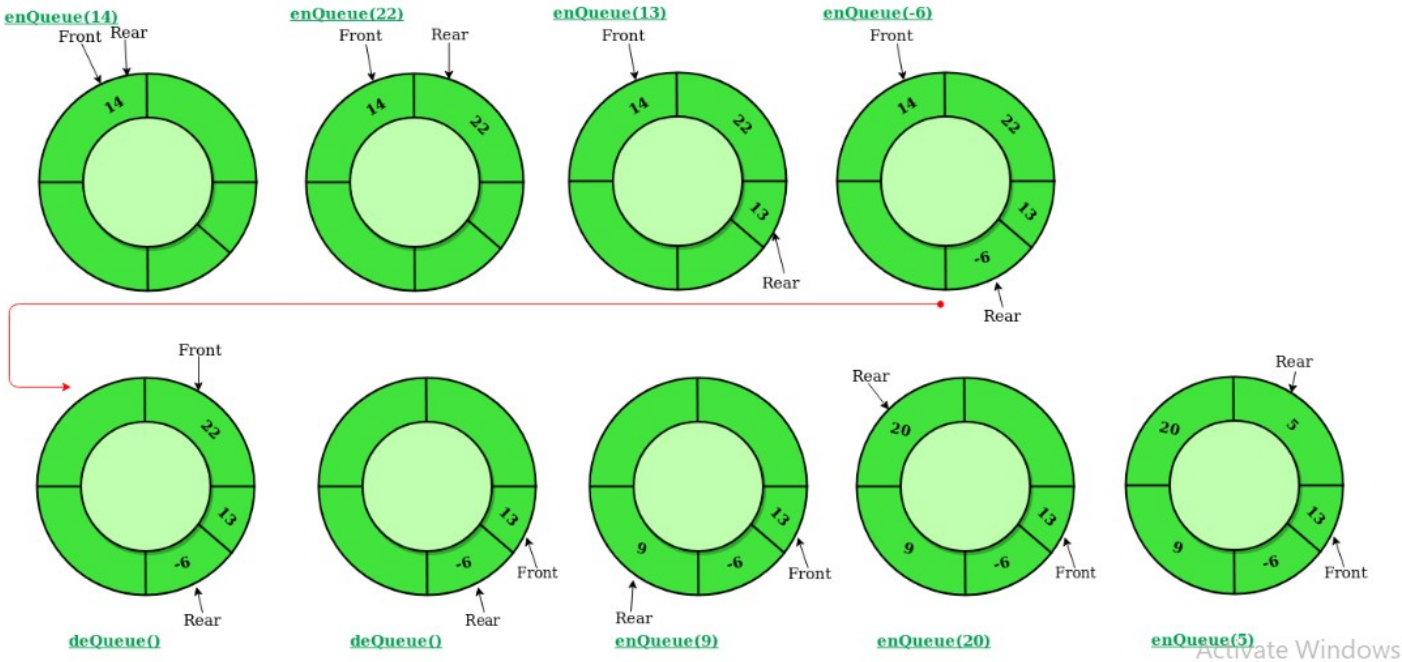
DSC Practical – 5

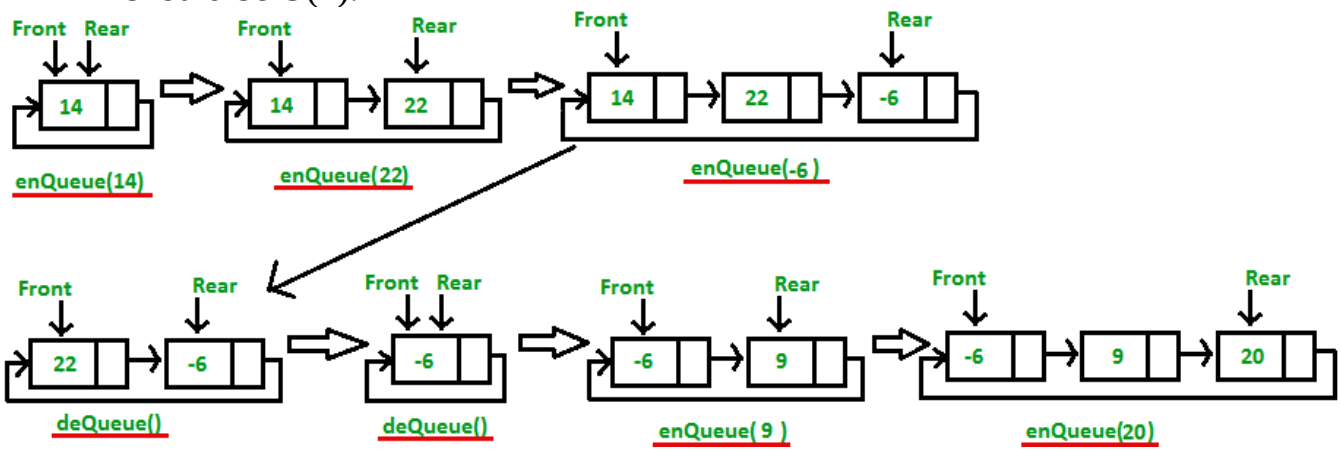
Queue – Introduction and Operations Implementations.

1. Write a C program to implement all operations of queue using array.
2. Write a C program to implement all operations of queue using link list.
3. Write a C program to implement basic operations of queue using stack.
4. Write a C program and algorithms to implement basic operations of circular queue using array. Time complexity of enQueue(), deQueue() operation should be O(1).





5. Write a C program and algorithm to implement basic operations of circular queue using link list. Time complexity of enQueue(), deQueue() operation should be O(1).



6. Write a C program and algorithm to perform basic operation of Deque.
7. Write an algorithm to reverse a queue using stack. Implement the same using a C program.
   Input : Q = [10, 20, 30, 40, 50, 60, 70, 80, 90, 100]
   Output :Q = [100, 90, 80, 70, 60, 50, 40, 30, 20, 10]

   Input :[1, 2, 3, 4, 5]
   Output :[5, 4, 3, 2, 1]