MOVIKA BHAGAVAKAR
movikabh@gmail.com

# ASSIGNMENT-DAY-7

## Question 1

**Write a program implementing insert, delete and display operation of Circular Queue.**

```
#include <iostream>
using namespace std;
int cqueue[5];
int front = -1, rear = -1, n=5;
void insertCQ(int val) {
  if ((front == 0 && rear == n-1) || (front == rear+1)) {
    cout<<"Queue Overflow \n";
    return;
  }
  if (front == -1) {
    front = 0;
    rear = 0;
  }
  else {
    if (rear == n - 1)
      rear = 0;
    else
      rear = rear + 1;
  }
  cqueue[rear] = val ;
}
void deleteCQ() {
  if (front == -1) {
    cout<<"Queue Underflow\n";
    return ;
  }
  cout<<"Element deleted from queue is : "<<cqueue[front]<<endl;
  if (front == rear) {
    front = -1;
    rear = -1;
  }
  else {
    if (front == n - 1)
      front = 0;
    else
      front = front + 1;
  }
}
void displayCQ() {
  int f = front, r = rear;
  if (front == -1) {
    cout<<"Queue is empty"<<endl;
    return;
  }
  cout<<"Queue elements are :\n";
  if (f <= r) {
    while (f <= r){
      cout<<cqueue[f]<<" ";
      f++;
    }
  }
  else {
    while (f <= n - 1) {
      cout<<cqueue[f]<<" ";
      f++;
    }
    f = 0;
    while (f <= r) {
      cout<<cqueue[f]<<" ";
      f++;
    }
  }
  cout<<endl;
}
int main() {
  int ch, val;
  cout<<"1)Insert\n";
  cout<<"2)Delete\n";
  cout<<"3)Display\n";
  cout<<"4)Exit\n";
  do {
    cout<<"Enter choice : "<<endl;
```

MOVIKA BHAGAVAKAR
movikabh@gmail.com

# ASSIGNMENT-DAY-7

```
    cin>>ch;
    switch(ch) {
      case 1:
        cout<<"Input for insertion: "<<endl;
        cin>>val;
        insertCQ(val);
      break;
      case 2:
        deleteCQ();
      break;
      case 3:
        displayCQ();
      break;
      case 4:
        cout<<"Exit\n";
      break;
        default: cout<<"Incorrect!\n";
    }
  } while(ch != 4);
    return 0;
}
```