

### EXPERIMENT 3

**Code:**

```
#define size 5
#include <stdio.h>
#include <conio.h>
int cqueue[5];
int front=-1, rear=-1;
void enqueue(int x){
    if(front== -1){
        front=0;
        rear=0;
        cqueue[rear]=x;
    }
    else if((rear+1)%size==front){
        printf("Queue Full");
    }
    else{
        rear=(rear+1)%size;
        cqueue[rear]=x;
    }
}
void dequeue(){
    int val;
    if(front== -1){
        printf("Queue Empty\n");
    }
    else if((front+1)%size==rear){
        printf("Deleted %d\n", cqueue[front]);
        front=-1;
        rear=-1;
    }
    else{
```

```

printf("Deleted %d\n", cqueue[front]);
    front=(front+1)%size;
}
}

void display(){
    int i;
    if (front== -1){
        printf("Queue Empty\n");
    }
    else{
        printf("Elements: ");
        for(i=front;i!=rear;i=(i+1)%size){
            printf("%d, ",cqueue[i]);
        }
        printf("%d\n", cqueue[rear]);
    }
}

void main(){
    int ch=0,add;
    printf("1. Enqueue\n2.Dequeue\n3.Display\n4.Exit\n");
    while(ch!=4){
        printf("\n\nEnter choice: ");
        scanf("%d",&ch);
        switch(ch){
            case 1:
                printf("Enter value to be added: ");
                scanf("%d",&add);
                enqueue(add);
                break;
            case 2:
                dequeue();
                break;
        }
    }
}

```

```
        case 3:  
            display();  
            break;  
        case 4:  
            break;  
        default:  
            printf("Invalid Input\n");  
    }  
}  
}
```

#### Output:

```
PROBLEMS    OUTPUT    DEBUG CONSOLE    TERMINAL    PORTS  
E:\piyu\Computer Engg\Sem 3\DSA\Queue>.\a  
1. Enqueue  
2.Dequeue  
3.Display  
4.Exit  
  
Enter choice: 1  
Enter value to be added: 70  
  
Enter choice: 1  
Enter value to be added: 80  
  
Enter choice: 3  
Elements: 70, 80  
  
Enter choice: 2  
Deleted 70  
  
Enter choice: 4  
E:\piyu\Computer Engg\Sem 3\DSA\Queue>
```