

## WEEK 4

### CIRCULAR QUEUE

```
#include<stdio.h>

#define max 3

int queue[max];

int front=-1;

int rear=-1;


void display()
{
    int i;
    if(front== -1)
        printf("Queue is empty \n");
    else
    {
        printf("Queue \n");
        for(i=front;i!=rear;i=(i+1)%max)
            printf("%d ",queue[i]);
        printf("%d ",queue[i]);
        printf("\n");
    }
}


void insert()
{
    int value;

    if((rear==max-1 && front==0) || (front==rear+1))
        printf("Queue is full \n");
    else{
        if(front== -1)
            front=0;
```

```

        printf("Insert element into queue \n");
        scanf("%d",&value);
        rear=(rear+1)%max;
        queue[rear]=value;
    }
}

void delete()
{
    if(front==-1)
        printf("Queue is empty ");
    else{
        if(front==rear)
        {
            front=-1;
            rear=-1;
        }
        else front=(front+1)%max;
    }
}

void main()
{
    int ch;
    while(1)
    {
        printf("\n\n1.Insert \n2.Delete \n3.Display \n4.Exit \n");
        scanf("%d",&ch);
        printf("\n\n");
        switch(ch)
        {
            case 1: insert();

```

```
        break;
case 2: delete();
        break;
case 3: display();
        break;
case 4: exit(0);
default:printf("Invalid Input \n");
    }
}
}
```