

```
#include<stdio.h>

#include<conio.h>

#define n 3

int q[n];

int f=-1;

int r=-1;


void push();

void pop();

void display();

void main()

{

    int c;

    printf("1.INSERT\t 2.DELETE\t 3.DISPLAY\t 4.EXIT");

    while(1)

    {

        printf("\nEnter your choice");

        scanf("%d",&c);

        switch(c)

        {

            case 1 :push();

                break;

            case 2 :pop();

                break;

            case 3 :display();
```

```

        break;

    case 4 :exit(0);

        break;

    default :printf("Invalid input");

    }

}

}

void push(){

int item;

if(f==r+1 || (f==0 && r==n-1)){

printf("Queue is full\n");

return;

}

if(f== -1 && r== -1){

f=0;

r=0;

}

else

r=(r+1)%n;

printf("Enter the element to be inserted");

scanf("%d",&item);

q[r]=item;

}

void pop(){

int drop;

```

```

if(f== -1 && r== -1){
    printf("Queue is Empty\n");
    return;
}

drop=q[f];
printf("Deleted Element = %d\n",drop);

if(f==r){
    f=-1;
    r=-1;
}else
    f=(f+1)%n;
}

void display(){
    if(f== -1 && r== -1){
        printf("Queue is Empty\n");
        return;
    }

    if(f<=r){
        for(int i=f;i<=r;i++)
            printf("%d\t",q[i]);
    }else{
        for(int i=f;i<=n-1;i++){
            printf("%d\t",q[i]);
        }

        for(int j=0;j<=r;j++){

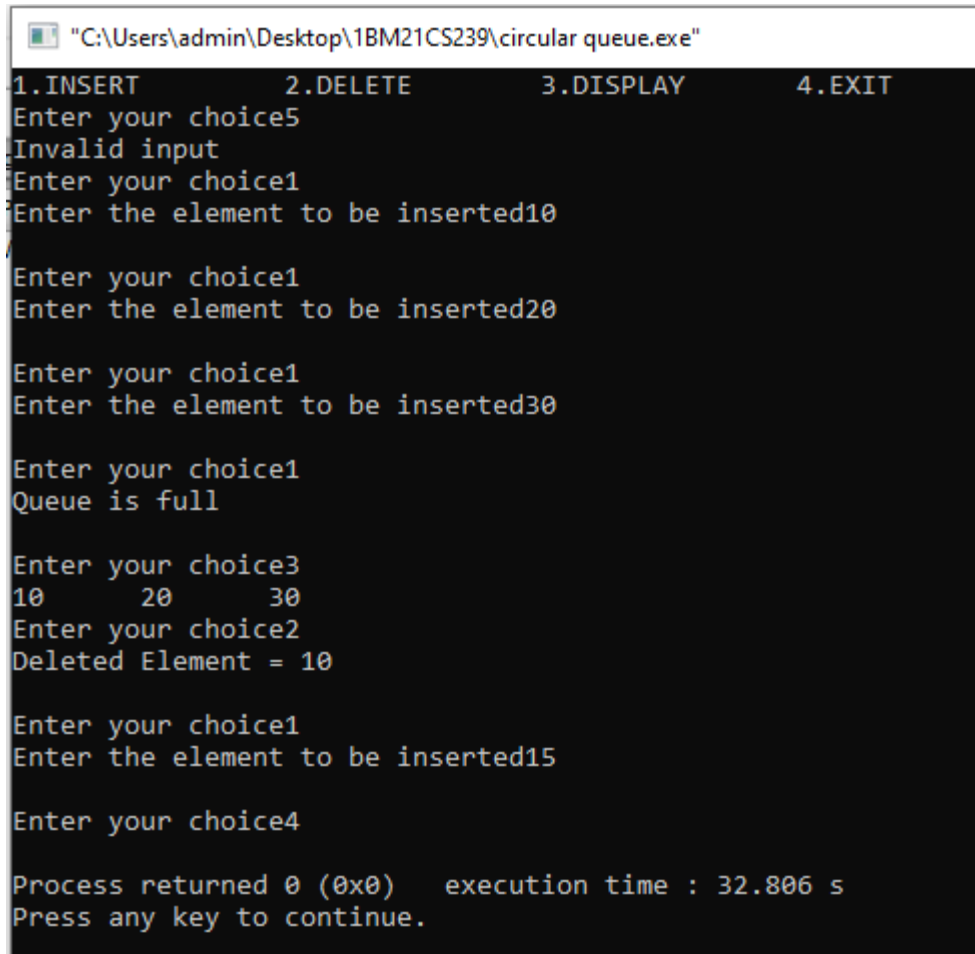
```

```
printf("%d\t",q[j]);
```

```
}
```

```
}
```

```
}
```



```
"C:\Users\admin\Desktop\1BM21CS239\circular queue.exe"
1.INSERT          2.DELETE          3.DISPLAY          4.EXIT
Enter your choice5
Invalid input
Enter your choice1
Enter the element to be inserted10

Enter your choice1
Enter the element to be inserted20

Enter your choice1
Enter the element to be inserted30

Enter your choice1
Queue is full

Enter your choice3
10      20      30
Enter your choice2
Deleted Element = 10

Enter your choice1
Enter the element to be inserted15

Enter your choice4

Process returned 0 (0x0)   execution time : 32.806 s
Press any key to continue.
```