

```
#include <stdio.h>

# define max 6

int queue[max];

int front=-1;

int rear=-1;

void enqueue(int element)
{
    if(front== -1 && rear== -1)
    {
        front=0;
        rear=0;
        queue[rear]=element;
    }
    else if((rear+1)%max==front)
    {
        printf("Queue is overflow\n");
    }
    else
    {
        rear=(rear+1)%max;
        queue[rear]=element;
    }
}

int dequeue()
{

```

```
if((front==-1) && (rear==-1))
{
printf("\nQueue is underflow\n");
}
else if(front==rear)
{
printf("\nThe deleted element is %d \n", queue[front]);
front=-1;
rear=-1;
}
else
{
printf("\nThe deleted element is %d \n", queue[front]);
front=(front+1)%max;
}
}

void display()
{
int i=front;
if(front==-1 && rear==-1)
{
printf("\n Queue is Empty \n");
}
else
{
```

```

printf("\nElements in Queue are :");
While(i<=rear)
{
printf("%d \t", queue[i]);
i=(i+1)%max;
}
}
}
void search()
{
int item,l,c=0;
printf("Enter the element to be searched : ");
scanf("%d", &item);
for(i=front;i<=rear;i++)
{
if(item==queue[i])
{
printf("Item found at location %d \n",i+1);
c++;
}
}
if(c==0)
printf("Item not found");
}
int main()

```

```

{
int choice=1,x;
while(choice<4 && choice!=0)
{
printf("\n1. Insertion");
printf("\n2. Deletion");
printf("\n3. Display");
printf("\n4. Search");
printf("\nEnter your choice : ");
scanf("%d", &choice);
switch(choice)
{
    Case 1:printf("Enter the element to be inserted : ");
scanf("%d", &x);
enqueue(x);
break;
case 2: dequeue();
break;
case 3: display();
break;
case 4:search();
}
}
return 0;
}

```

Output :-

```
1. Insertion
2. Deletion
3. Display
4. Search
Enter your choice : 1
Enter the element to be inserted : 45
```

```
1. Insertion
2. Deletion
3. Display
4. Search
Enter your choice : 1
Enter the element to be inserted : 88
```

```
1. Insertion
2. Deletion
3. Display
4. Search
Enter your choice : 2

The deleted element is 45
```

```
1. Insertion
2. Deletion
3. Display
4. Search
Enter your choice : 3

Elements in Queue are :88
1. Insertion
2. Deletion
3. Display
4. Search
Enter your choice : 4
Enter the element to be searched : 55
Item not found
[Program finished]
```