Program

```c
#include<stdlib.h>

#include<stdio.h>

#define max 5

int front=-1,rear=-1;

int CQueue[max];

void insert();

int delete();

void display();

void search();

int main()

{
```

```c
int w,no;

for(;;)

{

    printf("\nChoices:-");

    printf("\n1.Insert");

    printf("\n2.Delete");

    printf("\n3.Display");

    printf("\n4.Search");

    printf("\n5.exit");

    printf("\nEnter your choice: \n");

    scanf("%d",&w);

    switch(w)
```

```c
{
    case 1:

        insert();

        break;

    case 2:

        no=delete();

        break;

    case 3:

        display();

        break;

    case 4:

        search();
```

```c
        case 5:

            exit(0);

        default:

            printf("\nInvalid Option\n");

        }

    }

}

void insert()

{

    int no;

    if((front ==0 && rear == max-1) || front == rear+1)

    {
```

```c
        printf("\nCircular Queue Is Full \n");

        return;

    }

    printf("\nEnter the number to be inserted :\n");

    scanf("%d",&no);

    if(front==-1)

        front=front+1;

    if(rear==max-1)

        rear=0;

    else rear=rear+1;

        CQueue[rear]=no;

}
```

```c
int delete()

{

    int e;

    if(front==-1)

    {

        printf("\nThe Circular Queue is Empty\n");

    }

    e=CQueue[front];

    if(front==max-1)

        front=0;

    else if(front==rear)
```

```c
    {
        front=-1;

        rear=-1;

    }

    else front=front+1;

    printf("\n%d was deleted \n",e);

    return e;

}

void display()

{

    int i;

    if(front==-1)
```

```c
{

    printf("\nThe Circular Queue is Empty\n");

    return;

}

i=front;

if(front<=rear)

{

    printf("\n\n");

    while(i<=rear)

        printf("%d ",CQueue[i++]);

    printf("\n");

}
```

```c
    else

    {

        printf("\n\n");

        while(i<=max-1)

            printf("%d ",CQueue[i++]) ;

        i=0;

        while(i<=rear)

            printf("%d ",CQueue[i++]);

        printf("\n");

    }

}

void search()
```

```c
{

int item,i,c=0;

printf("Enter the element to be searched: ");

scanf("%d", &item);

for(i=front;i<=rear;i++)

{

if(item==CQueue[i])

{

printf("item found at locatio

n %d ",i+1);

c++;

}

}
```

```
if(c==0)

printf("item not found");

}
```

Output

```
Choices:-
1.Insert
2.Delete
3.Display
4.Search
5.exit
Enter your choice:
1

Enter the number to be inserted :
7

Choices:-
1.Insert
2.Delete
3.Display
4.Search
5.exit
Enter your choice:
1

Enter the number to be inserted :
14

Choices:-
1.Insert
2.Delete
3.Display
4.Search
5.exit
Enter your choice:
2

7 was deleted
```

```
1.Insert
2.Delete
3.Display
4.Search
5.exit
Enter your choice:
2

7 was deleted

Choices:-
1.Insert
2.Delete
3.Display
4.Search
5.exit
Enter your choice:
3

14

Choices:-
1.Insert
2.Delete
3.Display
4.Search
5.exit
Enter your choice:
4
Enter the element to be searched: 14
item found at location 2

...Program finished with exit code 0
Press ENTER to exit console.
```