

Assignment Day 7

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Question 1

Write a program implementing insert, delete and display operation of Circular Queue.

ANSWER:-

```
#include<stdio.h>

# define MAX 5

int cqueue_arr[MAX];

int front = -1;

int rear = -1;

void insert(int item)

{

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

{

printf("Queue Overflow n");

return;

}

if(front == -1)

{

front = 0;

rear = 0;

}

else

{

if(rear == MAX-1)

rear = 0;
```

```

else
rear = rear+1;
}
cqueue_arr[rear] = item ;
}
void deletion()
{
if(front == -1)
{
printf("Queue Underflown");
return ;
}
printf("Element deleted from queue is : %dn",cqueue_arr[front]);
if(front == rear)
{
front = -1;
rear=-1;
}
else
{
if(front == MAX-1)
front = 0;
else
front = front+1;
}
}
void display()
{
int front_pos = front,rear_pos = rear;
if(front == -1)
{

```

```

printf("Queue is empty\n");
return;
}
printf("Queue elements :n");
if( front_pos <= rear_pos )
while(front_pos <= rear_pos)
{
printf("%d ",cqueue_arr[front_pos]);
front_pos++;
}
else
{
while(front_pos <= MAX-1)
{
printf("%d ",cqueue_arr[front_pos])
front_pos++;
}
front_pos = 0;
while(front_pos <= rear_pos)
{
printf("%d ",cqueue_arr[front_pos]);
front_pos++;
}
}
printf("\n");
}
int main()
{
int choice,item;
do
{

```

```
printf("1.Insertn");
printf("2.Deleten");
printf("3.Displayn");
printf("4.Quitn");
printf("Enter your choice : ");
scanf("%d",&choice);
switch(choice)
{
case 1 :
printf("Input the element for insertion in queue : ");
scanf("%d", &item);
insert(item);
break;
case 2 :
deletion();
break;
case 3:
display();
break;
case 4:
break;
default:
printf("Wrong choicen");
}
}while(choice!=4);
return 0;
}
```

OUTPUT:-

C:\WINDOWS\SYSTEM32\cmd.exe

```
4.Quit
Enter your choice : 1
Input the element for insertion in queue : 2
1.Insert
2.Delete
3.Display
4.Quit
Enter your choice : 1
Input the element for insertion in queue : 2
1.Insert
2.Delete
3.Display
4.Quit
Enter your choice : 3
Queue elements :
2 2
1.Insert
2.Delete
3.Display
4.Quit
Enter your choice : 2
Element deleted from queue is : 2
1.Insert
2.Delete
3.Display
4.Quit
Enter your choice : 3
Queue elements :
2
1.Insert
```