

Develop an application (C Program) with suitable data structure to demonstrate the Online Ticket Reservation system, in which users request should get process on the basis of First come First basis and utilize the cancelled tickets.

```
#include<stdio.h>

#define q_size 50

int item,front=0,rear=-1,q[q_size],count=0;

int f;

void insert_ticket()
{
    if(count==q_size)
    {
        printf("Queue Overflow\n");
        return;}

    rear=(rear+1)%q_size;
    q[rear]=item;
    count++;
    return;
}

int delete_front()
{
    if(count==0)
        return -1;
    else{
        item=q[front];
        front=(front+1)%q_size;
        count=count-1;
        return item;}
}
```

```

void display()
{
    int i,f;
    if (count==0)
    {
        printf("Queue is empty\n ");
        return;
    }
    f=front;
    printf("Content of Queue:\n");
    for(i=0;i<count;i++)
    {
        printf("%d\n",q[f]);
        f=(f+1)%q_size;
    }
}

void cancel_ticket()
{int iitem;

int key;

f= front;

printf("Enter ticket need to be cancel:");

scanf("%d",&key);

for(int i=0;i<=count;i++)
{

    if(q[f]==key)
    {
        printf("Enter the ticket number need to be replaced:");
        scanf("%d",&iitem);
        q[f]=iitem;
        return;
    }
}
}

```

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    }
    f=(f+1)%q_size;
}

}

void main()
{
    int choice;

    for(;;)
    {
        printf("1:INSERT\n 2:DELETE \n 3:DISPLAY \n4:REPLACE TICKET");
        printf("Enter the choice\n");
        scanf("%d",&choice);
        switch(choice){
            case 1:printf("Enter the ticket number: \n");
                scanf("%d",&item);
                insert_ticket();
                break;
            case 2:item=delete_front();
                if(item==-1){//{
                    printf("Queue is empty\n");

                    printf("ticket deleted is %d \n",item);
                    break;
                }
            case 3:display();
                break;
            case 4:cancel_ticket();
                break;
            default: break;
        }
    }
}

```

```
}  
}  
}
```

Output:

```
"C:\Users\hp\Documents\web development\lab11_prog1.exe"  
3  
Content of Queue:  
203  
204  
205  
206  
207  
1:INSERT  
2:DELETE  
3:DISPLAY  
4:REPLACE TICKETEnter the choice  
2  
ticket deleted is 203  
1:INSERT  
2:DELETE  
3:DISPLAY  
4:REPLACE TICKETEnter the choice  
3  
Content of Queue:  
204  
205  
206  
207  
1:INSERT  
2:DELETE  
3:DISPLAY  
4:REPLACE TICKETEnter the choice  
4  
Enter ticket need to be cancel:206  
Enter the ticket number need to be replaced:457  
1:INSERT  
2:DELETE  
3:DISPLAY  
4:REPLACE TICKETEnter the choice  
5  
1:INSERT  
2:DELETE  
3:DISPLAY  
4:REPLACE TICKETEnter the choice  
3  
Content of Queue:  
204  
205  
457  
207  
1:INSERT  
2:DELETE  
3:DISPLAY  
4:REPLACE TICKETEnter the choice
```