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#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#define size 100
int q[100];
int front=-1;
int rear=-1;
void enq(int ele)
{
    if(rear==size-1)
    {
        printf("Queue is full\n");
    }
    else if(front== -1 && rear== -1)
    {
        front=0;
        rear=0;
    }
    else{
        rear=rear+1;
    }
    q[rear]=ele;
}
int dq()
{
    int ele;
    if(front == -1 && rear== -1)
    {
        return -999;
    }
    else if(front==rear)
    {
        ele=q[front];
        front=-1;
        rear=-1;
        return ele;
    }
    else
    {
        ele=q[front];
        front=front+1;
        return ele;
    }
}

int main(int argc,char **argv)
{
    int n;

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printf("Enter the number of calls =\n");
scanf("%d",&n);
char name[n][100];
int ph[100];
char id[n][100];
int date[n];
int ele;
int ch;
for(int i=0;i<n;i++)
{
    enq(i);
    printf("Enter the details of the customer %d: name,customer id,phone
number, date of call respectively::\n",(i+1));
    getchar();
    scanf("%s",name[i]);
    getchar();
    scanf("%s",id[i]);
    scanf("%d",&ph[i]);
    scanf("%d",&date[i]);
}
for(int i=0;i<n;i++)
{
    do
    {
        printf("Enter 0 to take a call:\n");
        ele=dq();
        scanf("%d",&ch);
        if(ele==-999)
        {
            printf("No more customer calls in queue\n");
            break;
        }
        else
        {
            printf("Removed call %d from the queue",ele+1);
        }
        printf("Details of the customer after the call ended\n");
        printf("Name of the customer=%s\n",name[i]);
        printf("ID of the customer=%s\n",id[i]);
        printf("Phone number of the customer=%d\n",date[i]);
    }while(ch==0);
    do
    {
        printf("Do you want to call again, if yes enter 1 else enter 2 to exit\n");
        scanf("%d",&ch);
        switch(ch)
        {
            int p;

```

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case 1:printf("Enter the customer phone number\n");
scanf("%d",&p);
int i;
for(i=0;i<n;i++)
{
    if(p==ph[i])
    {
        ele=i;
        break;
    }
}
enq(i);
int ele=dq();
printf("Removed customer's call from queue after receiving\n");
printf("Following are his details\n");
printf("Details of the customer after the call ended\n");
printf("Name of the customer=%s\n",name[ele]);
printf("ID of the customer=%s\n",id[ele]);
printf("Phone number of the customer=%d\n",date[ele]);
break;
case 2:break;
}
}while(ch==1);
}
}

```