

TELEPHONE DIRECTORY AND BILLING INFORMATION PROJECT

```
#include <stdio.h>

#include <conio.h>

#include <string.h>

#include <process.h>

#include <ctype.h>

#include <dos.h>

#include <dir.h>

#include <fstream.h>

// CLASS HAVING THE RECORD OF CUSTOMER

class customer

{

    char ph[10];

    char name[30];

    char add[40];

    char type;

public :

    void append();

    void display();

    void deleter();

    void modify();

    void list();

    void help();

}cust;
```

```
// FUNCTION TO DISPLAY THE MESSAGE AT THE BOTTOM OF THE SCREEN
```

```
void message(char mess[80])
```

```
{
```

```
    int l,d;
```

```
    l=strlen(mess);
```

```
    d=l/2;
```

```
    gotoxy(2,24);
```

```
    textcolor(WHITE+BLINK);
```

```
    textbackground(BLACK);
```

```
    printf("                ");
```

```
    gotoxy(40-d,24);
```

```
    clrscr();
```

```
    printf("%s",mess);
```

```
    textcolor(BLACK);
```

```
    textbackground(WHITE);
```

```
}
```

```
// MAIN FUNCTION HAVING THE MAIN MENU
```

```
void main()
```

```
{
```

```
    textcolor(BLACK);
```

```
    textbackground(WHITE);
```

```
    char ch,ch1;
```

```
    while(1)
```

```
    {
```

```
        clrscr();
```

```
textcolor(WHITE);
textbackground(BLACK);
gotoxy(25,5);
cprintf("MAHANAGAR TELEPHONE NIGAM LTD.");
textcolor(BLACK);
textbackground(WHITE);
gotoxy(25,8);
cout<<" D - Display a Bill";
gotoxy(25,10);
cout<<" L - List of customers";
gotoxy(25,12);
cout<<" H - Help";
gotoxy(25,14);
cout<<" M - Modify a record";
gotoxy(25,16);
cout<<" Q - Quit";
message("Select your choice");
gotoxy(40,18);
ch =getch();
ch = toupper(ch);
switch(ch)
{
case ('Q') : textcolor(WHITE);
             textbackground(BLACK);
             clrscr();
```

```
        exit(1);
    case ('D') : cust.display();
        break;
    case ('L') : cust.list();
        break;
    case ('H') : cust.help();
        break;
    case ('M') :
        ch1 = 'A' ;
        while(ch1 != 'Q')
        {
            clrscr();
            textcolor(WHITE);
            textbackground(BLACK);
            gotoxy(25,5);
            printf("MAHANAGAR TELEPHONE NIGAM LTD.");
            textcolor(BLACK);
            textbackground(WHITE);
            gotoxy(25,9);
            cout<<" A - Append a record";
            gotoxy(25,11);
            cout<<" D - Delete a record";
            gotoxy(25,13);
            cout<<" M - Change a record";
            gotoxy(25,15);
```

```

        cout<<" Q - Quit";

        message("Select your option");

        ch1 = getch();

        ch1 = toupper(ch1);

        switch(ch1)
        {
            case ('A') : cust.append();

                break;

            case ('D') : cust.deleter();

                break;

            case ('M') : cust.modify();

                break;

        }

    }

}

// FUNCTION TO ADD THE CUSTOMER RECORD IN THE FILE

void customer :: append()

{

    char choice;

    fstream fp;

    fp.open("tphone.dat", ios::app);

    if (!fp)

```

```

{
    cout<<"Unable to open FILE.";
    getch();
    return;
}
while(1)
{
    clrscr();
    gotoxy(3,3);
    cout<<"Customer Record #";
    message("Enter the customer record");
    while(1)
    {
        message("Enter the name");
        gotoxy(3,5);
        cout<<"Name      : ";
        gotoxy(25,5);
        gets(name);
        if(strlen(name)==0)
        {
            gotoxy(2,23);
            clreol();
            textcolor(WHITE+BLINK);
            textbackground(BLACK);
            printf("Name cannot be left blank\a");

```

```
        textcolor(BLACK);
    }
    else
        break;
}
while(1)
{
    message("Enter the address");
    gotoxy(3,6);
    cout<<"Address      : ";
    gotoxy(25,6);
    gets(add);
    if (strlen(add) != 0)
        break;
}
while(1)
{
    gotoxy(3,7);
    cout<<"Assigned Ph. No. : ";
    gotoxy(25,7);
    cin>>ph;
    if (ph != 0 )
        break;
    else
    {
```

```

        gotoxy(25,7);
        clrhol();
    }
}
message("Enter O for Office and R for residential phone");
gotoxy(3,8);
cout<<"catagory ( O/R ) : ";
cin>>type;
gotoxy(4,10);
cout<<"1 : Save & Exit  2 : Save & Cont.  0 : Exit without save";
gotoxy(4,11);
cout<<"? ";
cin>>choice;
switch(choice)
{
    case ('1'):  fp.write((char *) this,sizeof(cust));
                fp.close();
                return;
    case ('2'):  fp.write((char *) this,sizeof(cust));
                break;
    case ('0'):  fp.close();
                return;
    default :   fp.close();
                return;
}

```



```

    }
}
// FUNCTION TO DISPLAY THE CUSTOMER RECORD AND CALCULATE THE BILL
void customer :: display()
{
    char p[10];
    char choice;
    int found=0;
    int no;
    float bill=0.0, tax=0.0, fine=0.0, bbill=0.0, abill=0.0;
    fstream fp;
    fp.open("tphone.dat", ios::in);
    if (!fp)
    {
        cout<<"Unable to open a file";
        getch();
        fp.close();
        return;
    }
    while(choice != '0')
    {
        clrscr();
        gotoxy(3,20);
        cout<<"Please enter the Phone No. ";
        cin>>p;

```

```

if (!strcmp(p,"0"))
    return;

found = 0;

fp.seekg(0);

while (fp.read((char *)this ,sizeof(cust)))
{
    if (found==1)
        break;

    if (!strcmp(ph,p))
    {
        clrscr();

        gotoxy(28,2);

        textcolor(BLACK+BLINK) ;

        textbackground(WHITE);

        printf("MAHANAGAR TELEPHONE BILL");

        textcolor(WHITE);

        textbackground(BLACK);

        gotoxy(3,4);

        cout<<"Name      : ";

        cout<<name;

        gotoxy(35,5);

        cout<<"Address   : ";

        cout<<add;

        gotoxy(35,4);

        cout<<"Assigned Ph. No. : ";
    }
}

```

```

cout<<ph;
gotoxy(3,5);
cout<<"Catagory ( O/R ) : ";
cout<<type;
gotoxy(23,8);
cout<<"_____";
gotoxy(10,8);
cout<<"No. of calls ";
cin>>no;
if ( no <= 150 )
    bill = 0 ;
else
{
    no = no - 150;
    if (toupper(type) == 'O')
        bill = no * 1.00 ;
    else
        bill = no * .80;
}
gotoxy(10,9);
cout<<"Bill";
gotoxy(70,9);
cout<<bill;
tax = (5*bill)/100;
gotoxy(10,10 );

```

```

cout<<"5% Tax";

gotoxy(70,10);

cout<<tax;

gotoxy(10,11);

cout<<"Duties";

gotoxy(70,11);

cout<<"100";

int dd,mm,yy;

struct date d; // Getting system Date

getdate(&d);

dd = d.da_day;

mm = d.da_mon;

yy = d.da_year;

gotoxy(10,15) ;

cout<<"TOTAL BILL before " ;

cout<<dd<<"/"<<mm<<"/"<<yy;

bbill = bill+tax+100;

gotoxy(70,15);

cout<<bbill;

gotoxy(10,17);

cout<<"Late Fine";

fine = (bbill*5)/100;

gotoxy(70,17);

cout<<fine;

gotoxy(10,21);

```

```

        cout<<"TOTAL BILL after ";

        cout<<dd<<"/"<<mm<<"/"<<yy;

        abill = bbill+fine;

        gotoxy(70,21);

        cout<<abill;

        found = 1;

        message("Press a Key");

        getch();

    }

}

message("Enter 1 or 2 to cont.");

gotoxy(4,22);

cout<<"1 : Cont.  0 : Exit ";

cout<<"? ";

cin>>choice;

switch(choice)

{

    case ('1') :

        break;

    case ('0') : return;

    default : return;

}

}

fp.close();

```

```

}

// FUNCTION TO DISPLAY THE LIST OF THE CUSTOMERS

void customer :: list()

{
    clrscr();

    fstream fp;

    int r;

    fp.open("tphone.dat", ios::in);

    if (!fp)
    {
        cout<<"Unable to open";

        getch();

        fp.close();

        return;
    }

    gotoxy(35,2);

    cout<<"List of Customers";

    gotoxy(35,3);

    cout<<"*****";

    gotoxy(5,4);

    cout<<"Name";

    gotoxy(40,4);

    cout<<"Phone No.";

    gotoxy(65,4);

    cout<<"Catagory";

```

```

gotoxy(1,5);

cout<<"*****
*";

r=6;

while (fp.read((char *) this, sizeof(cust)))
{
    if (r >= 21)
    {
        message("Press a key");

        getch();

        clrscr();

        gotoxy(35,2);

        cout<<"List of customers";

        gotoxy(35,3);

        cout<<"*****";

        gotoxy(5,4);

        cout<<"Name";

        gotoxy(40,4);

        cout<<"Phone No.";

        gotoxy(65,4);

        cout<<"Catagory";

        gotoxy(1,5);

    }

}

cout<<"*****
*";

r=6;

```

```

    }
    gotoxy(5,r);
    cout<<name;
    gotoxy(40,r);
    cout<<ph;
    gotoxy(65,r);
    if (toupper(cust.type) == 'O')
        cout<<"Office";
    else
        cout<<"Residential";
    r++;
}
message("Press a key");
getch();
fp.close();
}
// FUNCTION TO DELETE THE RECORD OF CUSTOMER FROM THE FILE
void customer :: deleter()
{
    char ch;
    char p[10];
    fstream temp,fp;
    fp.open("tphone.dat", ios::in);
    if (!fp)
    {

```



```

        cout<<"Unable to open Telephone file";

        getch();

        fp.close();

        return;
    }

    temp.open("temp.dat", ios::out);

    if (!temp)

    {

        cout<<"Unable to open Temporary file";

        getch();

        temp.close();

        return;

    }

    clrscr();

    gotoxy(5,3);

    cout<<"Enter the Phone No. to be deleted : ";

    cin>>p;

    if(!strcmp(p,"0"))

        return;

    int found=0;

    while (fp.read((char *) this, sizeof(cust)))

    {

        if (!strcmp(p,ph))

        {

            found = 1;

```

```

gotoxy(5,5);
cout<<"Name   "<<name;
gotoxy(5,6);
cout<<"Address " <<add;
gotoxy(5,7);
cout<<"Catagory "<<type;
gotoxy(6,10);
cout<<"Delete this record (Y/N) ";
cin>>ch;
if (toupper(ch) == 'N')
    temp.write((char *) this,sizeof(cust));
}
else
    temp.write((char *) this,sizeof(cust));
}
fp.close();
temp.close();
if (toupper(ch) == 'N')
    return;
if (!found)
{
    cout<<"\n\nTelephone no. not found";
    getch();
    return;
}

```

```

fp.open("tphone.dat", ios::out);
temp.open("temp.dat", ios::in);
while (temp.read((char *) this, sizeof(cust)))
    fp.write((char *) this, sizeof(cust));
fp.close();
temp.close();
}

```

// FUNCTION TO MODIFY THE RECORD OF CUSTOMER FROM THE FILE

```

void customer :: modify()
{
    char ch;
    char p[10];
    fstream temp,fp;
    fp.open("tphone.dat", ios::in);
    if (!fp)
    {
        cout<<"Unable to open Telephone file";
        getch();
        fp.close();
        return;
    }
    temp.open("temp.dat", ios::out);

```

```

if (!temp)
{
    cout<<"Unable to open Temporary file";
    getch();
    temp.close();
    return;
}

clrscr();

gotoxy(5,3);

cout<<"Enter the Phone No. to be Modify : ";
cin>>p;

if(!strcmp(ph,"0"))
    return;

int found=0;

while (fp.read((char *) this, sizeof(cust)))
{
    if (!strcmp(p,ph))
    {
        found = 1;
        gotoxy(5,5);
        cout<<"Name    "<<name;
        gotoxy(5,6);
        cout<<"Address  " <<add;
        gotoxy(5,7);
        cout<<"Catagory  "<<type;
    }
}

```

```

gotoxy(6,10);
cout<<"Modify this record (Y/N) ";
cin>>ch;
if (toupper(ch) == 'Y')
{
    gotoxy(3,13);
    cout<<"Customer Record #";
    message("Enter the customer record");
    while(1)
    {
        gotoxy(3,15);
        cout<<"Name      : ";
        gets(name);
        if (strlen(name) != 0)
            break;
    }
    gotoxy(3,16);
    cout<<"Address    : ";
    gets(add);
    while(1)
    {
        gotoxy(3,17);
        cout<<"Assigned Ph. No. : ";
        cin>>ph;
        if (ph != 0 )

```

```

        break;
    }

    message("Enter O for Office and R for residential phone");

    gotoxy(3,18);

    cout<<"catagory ( O/R)  : ";

    cin>>type;

    }

}

temp.write((char *) this, sizeof(cust));

}

fp.close();

temp.close();

if (toupper(ch) == 'N')

    return;

if (!found)

{

    cout<<"\n\nTelephone no. not found";

    getch();

    return;

}

fp.open("tphone.dat", ios::out);

temp.open("temp.dat", ios::in);

while (temp.read((char *) this, sizeof(cust)))

    fp.write((char *) this, sizeof(cust));

fp.close();

```

```

temp.close();
}
// FUNCTION TO DISPLAY THE DISCRPTION FOR THE PROJECT WORKING
void customer :: help()
{
clrscr();
gotoxy(35,2);
textcolor(WHITE + BLINK);
textbackground(BLACK);
cprintf(" HELP ");
textcolor(BLACK);
textbackground(WHITE);
gotoxy(8,5);
cout<<"This software is used to create a telephone bill for the customers. ";
gotoxy(8,7);
cout<<"There are two catagories of the customers. First catagories is of";
gotoxy(8,9);
cout<<"Residential phones and second catagories is of Office phones. Both";
gotoxy(8,11);
cout<<"the catagories have different charges of the telephone bill. Charges";
gotoxy(8,13);
cout<<"of residential phones are 80 Paise per call and Charges of Office ";
gotoxy(8,15);
cout<<"office phones are Rs. 1 per call. 150 call are free for each catagory";
gotoxy(8,17);

```

```
cout<<"Total bill for is equal to 5% tax plus 100 rupees charges for other";  
gotoxy(8,19);  
cout<<"charges. If bill is not paid before the paticular date then penalty ";  
gotoxy(8,21);  
cout<<"should also be given.";  
getch();  
}
```