Assignment No 6

Name:- Amit Bandu Swami

Class :- SE Comp

Roll No :- 2221018

Problem:- Consider telephone book database of N clients. Make use of a hash table implementation to quickly look up client's telephone number.

```
#include<iostream>
using namespace std;
int f(int);
class myclass
{
        public:
        long int hash[10];
        void create();
        void display();
        void search();
};
void myclass:: create()
{
 long int add,temp,i,x;
 char ch;
 for(i=0;i<10;i++)
```

```
 hash[i]=-1;
do
{
cout<<"Enter The Telephone number:"<<endl;
cin>>x;
add=f(x);
if(hash[add]==-1)
        hash[add]=x;
else
{
         temp=(add+1)%10;
while(temp!=add)
{
if(hash[temp]==-1)
{
        hash[temp]=x;
        break;
}
else
        temp=(temp+1)%10;
}
If(temp==add && hash[temp]!=x)
{
```

```
        cout<<"overflow"<<endl;
        break;
        }
        } cout<<"Do U Wanna Continue(Y/N):"<<endl;
        cin>>ch;
} while(ch=='y'||ch=='Y');
}
int f(int x)
{
        int temp;
        temp=x%10;
        return(temp);
}
void myclass:: display()
{
 for(int i=0;i<10;i++)
 {
        cout<<hash[i]<<endl;
 }
}
void myclass::search()
{
 long int add,temp,i,key;
```

```
cout<<"Enter The Telephone number to search:"<<endl;
cin>>key;
add=f(key);
for(int i=0;i<10;i++)
{
        if(hash[add]==key)
         {
         cout<<"telephone number is found"<<endl;
         break;
        }
        else
        temp=(add+1)%10;
        if(hash[temp]==key)
        {
        cout<<"present"<<endl;
        break;
        }
         else
         {
         temp=(temp+1)%10;
        }
        if(hash[temp]!=key)
        {
```

```
                cout<<"telephone number not found"<<endl;
                break;

        }

}
}
int main()
{
 int ch;
 myclass ob;
 while(1)
 {
 cout<<"1 for create"<<endl;
 cout<<"2 for display"<<endl;
 cout<<"3 for search"<<endl;
 cout<<"enter a choice"<<endl;
 cin>>ch;
 switch(ch)
 {
 case 1:
 ob.create();
 break;
```

```
case 2:
ob.display();
break;

case 3:
ob.search();
break;
}
}
}
```