```cpp
#include<iostream>
#include<fstream>
#include<string>
using namespace std;

class Employee{
    public:
    string Name,Department,Address,Email_Id,Position;
    long long Id,Salary,Contact_No,Experience;
    Employee(){
        Name="";
        Id=0;
        Department="";
        Salary=0;
        Address="";
        Contact_No=0;
        Email_Id="";
        Position="";
        Experience=0;
    }
    void insert(){
        // Name
        cout<<"Enter the Name: ";
        cin>>this->Name;
        // ID
        int check=1,num;
        while(check){
            cout<<"Enter the ID(4-Digit): ";
            cin>>num;
            if(999<num && num<10000){
                this->Id=num;
                check=0;
            }
            else{
                cout<<"Please enter valid Id!!!!!"<<endl;
            }
        }
        // Department
        cout<<"Department: ";
        cin>>this->Department;
        //Salary
        cout<<"Enter the Salary: ";
        cin>>this->Salary;
        //Address
        int flag=1;
        string addr="";
        while(flag){
            cout<<"Enter the Address: ";
```

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            cin>>addr;
            if(addr.length()<=12){
                this->Address=addr;
                flag=0;
            }
            else{
                cout<<"Alert! Address exceed the range."<<endl;
            }
        }
        // Contact_No
        cout<<"Enter the Contact_No: ";
        cin>>this->Contact_No;
        //Email_Id
        cout<<"Enter the Email_Id: ";
        cin>>this->Email_Id;
        //Position
        cout<<"Enter the Position: ";
        cin>>this->Position;
        // Experience in Years
        cout<<"Enter the Experience(years) ";
        cin>>this->Experience;
    }
    void PrintList(){
        // cout<<"Details: ";
        cout<<"Name: "<<this->Name<<" ID: "<<this->Id<<" Department: "<<this->Department<<" Salary: "<<this->Salary<<" Address: "<<this->Address<<" Contact_No: "<<this->Contact_No<<" Email_Id: "<<this->Email_Id<<" Position: "<<this->Position<<" Experience: "<<this->Experience<<endl;
    }
};
void deleteList(Employee *ob,int *idx,int i, int *shifts){
        if(i < 1 || i > (*idx)){
            cout<<"Data doesn't exist.\n";
            return;
        }
        for(int k=i-1;k<(*idx);k++){
            (*ob)=*(ob+1);
            ob++;
            (*shifts)++;
        }
        (*idx)--;
        cout<<"Delete Sucessfull\n";

}
int main(){
    char ch,n;
    int idx=0;
```

```cpp
    Employee ob[20];
    fstream fout,fin;
    // for read
    fin.open("temp.txt",ios::in);
    string str;
    char alpha;
    while(!fin.eof())
    {
        fin.get(alpha);
        while(true){
            if(alpha==' ' || alpha=='\n'  || alpha=='\r' || fin.eof()){
                break;
            }
            str+=alpha;
            fin.get(alpha);
        }
        if(ob[idx].Name==""){
            // cout<<"Name:"<<str<<endl;
            ob[idx].Name=str;
            str.erase();
            continue;
        }
        else if(ob[idx].Id==0){
            // cout<<"Id:"<<str<<endl;
            ob[idx].Id=stoll(str);
            str.erase();
            continue;
        }
        else if(ob[idx].Department==""){
            // cout<<"DPT:"<<str<<endl;
            ob[idx].Department=str;
            str.erase();
            continue;
        }
        else if(ob[idx].Salary==0){
            // cout<<"SAL:"<<str<<endl;
            ob[idx].Salary=stoll(str);
            str.erase();
            continue;
        }
        else if(ob[idx].Address==""){
            // cout<<"Address:"<<str<<endl;
            ob[idx].Address=str;
            str.erase();
            continue;
        }
        else if(ob[idx].Contact_No==0){
            // cout<<"CN:"<<str<<endl;
```

```cpp
                ob[idx].Contact_No=stoll(str);
                str.erase();
                continue;
            }
            else if(ob[idx].Email_Id==""){
                // cout<<"EI:"<<str<<endl;
                ob[idx].Email_Id=str;
                str.erase();
                continue;
            }
            else if(ob[idx].Position==""){
                //     cout<<"PS:"<<str<<endl;
                ob[idx].Position=str;
                str.erase();
                continue;
            }
            else if(ob[idx].Experience==0){
                // cout<<"Experience:"<<str<<endl;
                ob[idx].Experience=stoll(str);
                idx++;
                str.erase();
                continue;
            }
        }
    }
    fin.close();

    int n_shifts[] = {-1, -1, -1, -1, -1, -1, -1, -1, -1};
    do{
    cout<<"// -------------------"<<endl;
    cout<<("LIST:");
    for (int j = 0; j < idx; j++){
        cout<<"\n"<<j+1<<".)"<<ob[j].Name;
    }
    // cout<<"//---------------------"<<endl;
    cout<<("\n*******Menu*****\n");
    cout<<"1. Search for 4th person ( by ID) and print name of the empl
oyee";
    cout<<"\n2. Print data for the first employee";
    cout<<"\n3. Print data for the last employee";
    cout<<"\n4. Delete data for the employee at last position";
    cout<<"\n5. Delete data for the employee at first position";
    cout<<"\n6. Delete data for the employee at third position";
    cout<<"\n7. Insert data for a new employee at last position";
    cout<<"\n8. Insert data for a new employee at first position";
    cout<<"\n9. Insert data for a new employee at second position"<<end
l;
    cout<<"Enter your choice\n";
    cin>>n;
```

```cpp
switch(n){
    case '1':{
        //Search by id
        int id;
        cout<<"Enter the ID: ";
        cin>>id;
        for(int i=0;i<idx;i++){
            if(ob[i].Id==id){
                cout<<"Name: "<<ob[i].Name<<endl;
            }
        }
        n_shifts[0] = 0;
        break;
    }
    case '2':{
        //Details of 1st Employee
        cout<<"Details of Empolyee 1: ";
        ob[0].PrintList();
        // cout<<endl;
        n_shifts[1] = 0;
        break;
    }
    case '3':{
        //Details of last Employee
        cout<<"Details of Empolyee "<<idx<<": ";
        ob[idx-1].PrintList();
        // cout<<endl;
        n_shifts[2] = 0;
        break;
    }
    case '4':{
        //Delete from last
        int i=idx;
        n_shifts[3] = 0;
        deleteList(&ob[i-1],&idx,i, &n_shifts[3]);
        break;
    }
    case '5':{
        // Delete First
        int i=1;
        n_shifts[4] = 0;
        deleteList(&ob[i-1],&idx,i, &n_shifts[4]);
        break;
    }
    case '6':{
        // Delete Third
        n_shifts[5] = 0;
        int i=3;
```

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                deleteList(&ob[i-1],&idx,i, &n_shifts[5]);
                break;
        }
        case '7': {
            //insert data at last
                    cout<<"Enter Details ----
Employee serialNumber"<<idx+1<<endl;
                    ob[idx].insert();
                    idx++;
                    break;
                    n_shifts[6] = 0;
                }
        case '8':{
            //insert data at first
            n_shifts[7] = 0;
            Employee temp[20];
            for(int i=0;i<=idx;i++){
                temp[i]=ob[i];
            }
            ob[0].insert();
            idx++;
            for(int i=1;i<=idx+1;i++){
                ob[i]=temp[i-1];
                n_shifts[7]++;
            }
            break;
        }
        case '9':{
            //insert data at second
            n_shifts[8] = 0;
            Employee temp[20];
            for(int i=0;i<=idx;i++){
                temp[i]=ob[i];
            }
            ob[1].insert();
            idx++;
            for(int i=0;i<=idx+1;i++){
                if(i<1){
                    ob[i]=temp[i];
                }
                if(i>1){
                    ob[i]=temp[i-1];
                    n_shifts[8]++;
                }
            }
            break;
        }
        default:{
```

```
            cout<<"Enter the valid choice!!\n";
            break;
        }
    }
    cout<<"\nDo you wish to continue.y/n: ";
    cin>>ch;
    }while(ch!='n');
    cout<<"option\t\tN shifts";
    for(int i=0; i<9; i++){
        if(n_shifts[i] != -1){
            cout<<endl<<i+1<<"\t\t"<<n_shifts[i];
        }
    }
    return 0;
}
```

Output

// ------------------
LIST:
1.)Rohan
2.)Mohan
3.)Sohan
4.)Rahul
5.)Raju
6.)Ram
7.)Ranjeet
8.)Shayam
9.)Ajay
10.)Titu
Menu
1. Search for 4th person (by ID) and print name of the employee
2. Print data for the first employee
3. Print data for the last employee
4. Delete data for the employee at last position
5. Delete data for the employee at first position

6. Delete data for the employee at third position
7. Insert data for a new employee at last position
8. Insert data for a new employee at first position
9. Insert data for a new employee at second position
Enter your choice
1
Enter the ID: 1236
Name: Sohan

Do you wish to continue.y/n: y
// -------------------
LIST:
1.)Rohan
2.)Mohan
3.)Sohan
4.)Rahul
5.)Raju
6.)Ram
7.)Ranjeet
8.)Shayam
9.)Ajay
10.)Titu
Menu
1. Search for 4th person (by ID) and print name of the employee
2. Print data for the first employee
3. Print data for the last employee
4. Delete data for the employee at last position
5. Delete data for the employee at first position
6. Delete data for the employee at third position
7. Insert data for a new employee at last position
8. Insert data for a new employee at first position
9. Insert data for a new employee at second position
Enter your choice
2

Details of Empolyee 1: Name: Rohan ID: 1234 Department: ComputerScience Salary: 1000000 Address: Xyz Contact_No: 7838197234 Email_Id: abc@gamil.com Position: SoftwareEngineer Experience: 4

Do you wish to continue.y/n: y
// ------------------
LIST:
1.)Rohan
2.)Mohan
3.)Sohan
4.)Rahul
5.)Raju
6.)Ram
7.)Ranjeet
8.)Shayam
9.)Ajay
10.)Titu
Menu
1. Search for 4th person (by ID) and print name of the employee
2. Print data for the first employee
3. Print data for the last employee
4. Delete data for the employee at last position
5. Delete data for the employee at first position
6. Delete data for the employee at third position
7. Insert data for a new employee at last position
8. Insert data for a new employee at first position
9. Insert data for a new employee at second position
Enter your choice
3
Details of Empolyee 10: Name: Titu ID: 1243 Department: BusinessManagement Salary: 1500000 Address: fkh Contact_No: 5538197234 Email_Id: jtc@gamil.com Position: Manager Experience: 4

Do you wish to continue.y/n: y

// -------------------

LIST:

1.)Rohan

2.)Mohan

3.)Sohan

4.)Rahul

5.)Raju

6.)Ram

7.)Ranjeet

8.)Shayam

9.)Ajay

10.)Titu

Menu

1. Search for 4th person (by ID) and print name of the employee

2. Print data for the first employee

3. Print data for the last employee

4. Delete data for the employee at last position

5. Delete data for the employee at first position

6. Delete data for the employee at third position

7. Insert data for a new employee at last position

8. Insert data for a new employee at first position

9. Insert data for a new employee at second position

Enter your choice

4

Delete Sucessfull

Do you wish to continue.y/n: y

// -------------------

LIST:

1.)Rohan

2.)Mohan

3.)Sohan

4.)Rahul
5.)Raju
6.)Ram
7.)Ranjeet
8.)Shayam
9.)Ajay
Menu
1. Search for 4th person (by ID) and print name of the employee
2. Print data for the first employee
3. Print data for the last employee
4. Delete data for the employee at last position
5. Delete data for the employee at first position
6. Delete data for the employee at third position
7. Insert data for a new employee at last position
8. Insert data for a new employee at first position
9. Insert data for a new employee at second position
Enter your choice
5
Delete Sucessfull

Do you wish to continue.y/n: y
// -------------------
LIST:
1.)Mohan
2.)Sohan
3.)Rahul
4.)Raju
5.)Ram
6.)Ranjeet
7.)Shayam
8.)Ajay
Menu
1. Search for 4th person (by ID) and print name of the employee

2. Print data for the first employee
3. Print data for the last employee
4. Delete data for the employee at last position
5. Delete data for the employee at first position
6. Delete data for the employee at third position
7. Insert data for a new employee at last position
8. Insert data for a new employee at first position
9. Insert data for a new employee at second position
Enter your choice
6
Delete Sucessfull

Do you wish to continue.y/n: y
// ------------------
LIST:
1.)Mohan
2.)Sohan
3.)Raju
4.)Ram
5.)Ranjeet
6.)Shayam
7.)Ajay
Menu
1. Search for 4th person (by ID) and print name of the employee
2. Print data for the first employee
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4. Delete data for the employee at last position
5. Delete data for the employee at first position
6. Delete data for the employee at third position
7. Insert data for a new employee at last position
8. Insert data for a new employee at first position
9. Insert data for a new employee at second position
Enter your choice
8

Enter the Name: Golu
Enter the ID(4-Digit): 4321
Department: Tech
Enter the Salary: 12318
Enter the Address: 123-ABCVIHAR
Enter the Contact_No: 9281841721
Enter the Email_Id: 12jsad@fjak.com
Enter the Position: Head
Enter the Experience(years) 8

Do you wish to continue.y/n: n

option	N shifts
1	0
2	0
3	0
4	1
5	9
6	6
8	9