**File Handling**

Name: Kunal Gupta

Batch: A1 Roll No.-231023

**CODE:**

#include<iostream>

#include<fstream>

using namespace std;

struct empdata

{

int emp\_id;

char name[20];

};

struct empindex

{

int emp\_id1;

int position;

int flag;

};

class employee

{

struct empdata emp;

struct empindex pos;

public:

void insert()

{

int n;

//position of a record

fstream fp,fp1;

fp.open("mydata.txt",ios::in|ios::out|ios::ate|ios::binary);

fp1.open("index.txt",ios::in|ios::out|ios::ate|ios::binary);

if(fp.eof() || fp1.eof())

{

cout<<"Error Opening Files"<<endl;

exit(1);

}

fp.seekp(0,ios::end); //move to the end

fp1.seekp(0,ios::end); //move to the end

n= fp.tellp()/sizeof(emp); //position of the record

//cout<<"Enter the employee details:"<<endl;

cout<<"ENter the employee name:"<<endl;

cin>>emp.name;

cout<<"ENter the employee emp\_id:"<<endl;

cin>>emp.emp\_id;

pos.emp\_id1=emp.emp\_id;

pos.position=n;

pos.flag=0; //record is non\_deleted

fp.write((char\*)&emp,sizeof(emp));

fp1.write((char\*)&pos,sizeof(pos));

fp.close();

fp1.close();

}

void display()

{

int n; //stores position of record

fstream fp,fp1;

fp.open("mydata.txt",ios::in|ios::binary);

fp1.open("index.txt",ios::in|ios::binary);

//read only

if(!fp|| !fp1)

{

cout<<"Error Opening Files"<<endl;

exit(1);

}

fp1.seekg(0,ios::beg); //move to the start while(fp1.read((char\*)&pos,sizeof(pos))) {

if(pos.flag==0)

{

cout<<"Position:"<<pos.position<<"\t"<<"ID:"<<pos.emp\_id1<<endl;

n= pos.position \* sizeof(emp);

fp.seekg(n,ios::beg);

fp.read((char\*)&emp,sizeof(emp));

cout<<"Employee ID"<<"\t"<<emp.emp\_id<<"\t"<<endl; cout<<"Employee name "<<emp.name<<endl; }

}

fp.close();

fp1.close();

}

void search()

{

int key,n;

cout<<"Enter the key to be searched"<<endl;

cin>>key;

fstream fp,fp1;

fp.open("mydata.txt",ios::in|ios::binary);

fp1.open("index.txt",ios::in|ios::binary);

if(!fp|| !fp1)

{

cout<<"Error Opening Files"<<endl;

exit(1);

}

fp1.seekg(0,ios::beg); //move to the start while(fp1.read((char\*)&pos,sizeof(pos))) {

if(pos.emp\_id1==key && pos.flag==0)

{

n= pos.position \* sizeof(emp);

fp.seekg(n,ios::beg);

fp.read((char\*)&emp,sizeof(emp));

cout<<"Employee ID"<<"\t"<<emp.emp\_id<<endl;

cout<<"Employee name "<<emp.name<<endl;

fp.close();

fp1.close();

break;

}

}

fp.close();

fp1.close();

//cout<<"Record Not Found"<<endl;

}

void modify()

{

int key,n;

cout<<"Enter the key to be modified"<<endl;

cin>>key;

fstream fp,fp1;

fp.open("mydata.txt",ios::in|ios::out|ios::ate|ios::binary);

fp1.open("index.txt",ios::in|ios::out|ios::ate|ios::binary);

if(!fp|| !fp1)

{

cout<<"Error Opening Files"<<endl;

exit(1);

}

fp1.seekg(0,ios::beg); //move to the start while(fp1.read((char\*)&pos,sizeof(pos))) {

if(pos.emp\_id1==key && pos.flag==0)

{

cout<<"Record Found"<<endl;

cout<<"Enter the new details"<<endl;

cout<<"Enter new name"<<endl;

cin>>emp.name;

cout<<"Enter new ID"<<endl;

cin>>emp.emp\_id;

pos.emp\_id1=emp.emp\_id;

fp1.seekp(-sizeof(pos),ios::cur);

fp1.write((char\*)&pos,sizeof(pos));

n= pos.position \* sizeof(emp);

fp.seekg(n,ios::beg);

fp.write((char\*)&emp,sizeof(emp));

fp.close();

fp1.close();

break;

}

}

fp.close();

fp1.close();

//cout<<"Record Not Found"<<endl;

}

void delete\_rec()

{

int key,n;

cout<<"Enter the key to be deleted"<<endl;

cin>>key;

fstream fp,fp1;

fp.open("mydata.txt",ios::in|ios::out|ios::ate|ios::binary);

fp1.open("index.txt",ios::in|ios::out|ios::ate|ios::binary);

if(!fp|| !fp1)

{

cout<<"Error Opening Files"<<endl;

exit(1);

}

fp1.seekg(0,ios::beg); //move to the start while(fp1.read((char\*)&pos,sizeof(pos))) {

if(pos.emp\_id1==key && pos.flag==0)

{

cout<<"Record Deleted"<<endl;

pos.flag=-1; //symbolize record deleted fp1.seekp(-sizeof(pos),ios::cur); //bcoz,record is read,go back fp1.write((char\*)&pos,sizeof(pos)); fp.close();

fp1.close();

break;

}

}

fp.close();

fp1.close();

}

};

int main()

{

int choice;

employee e;

do{

cout<<"ENter your choice"<<endl;

cout<<"1. Insert the data"<<endl;

cout<<"2. Display the data "<<endl;

cout<<"3. Search for a record:"<<endl;

cout<<"4. Modify a record:"<<endl;

cout<<"5. Delete a record:"<<endl;

cout<<"6. EXIT"<<endl;

cin>>choice;

switch(choice){

case 1: e.insert();

break;

case 2: e.display();

break;

case 3: e.search();

break;

case 4: e.modify();

break;

case 5: e.delete\_rec();

break;

default:

cout<<"Enter Valid Choice"<<endl;

}

}while(choice!=6);

return 0;

}

/\* OUTPUT

ENter your choice

1. Insert the data
2. Display the data
3. Search for a record:
4. Modify a record:
5. Delete a record:
6. EXIT

1

ENter the employee emp\_id:

123

1. Insert the data
2. Display the data
3. Search for a record:
4. Modify a record:
5. Delete a record:
6. EXIT

2

Position:0 ID:123

Employee ID 123

Employee name ABC

ENter your choice

1. Insert the data
2. Display the data
3. Search for a record:
4. Modify a record:
5. Delete a record:
6. EXIT

1

ENter the employee name:

PQR

ENter the employee emp\_id:

143

ENter your choice

1. Insert the data
2. Display the data
3. Search for a record:
4. Modify a record:
5. Delete a record:
6. EXIT

|  |  |
| --- | --- |
| 2 |  |
| Position:0 | ID:123 |
| Employee ID | 123 |

|  |  |
| --- | --- |
| Position:1 | ID:143 |
| Employee ID | 143 |

1. Insert the data
2. Display the data
3. Search for a record:
4. Modify a record:
5. Delete a record:
6. EXIT

ENter the employee name:

DEF

ENter the employee emp\_id:

ENter your choice

1. Insert the data
2. Display the data
3. Search for a record:
4. Modify a record:
5. Delete a record:
6. EXIT

Position:0 ID:123

|  |  |
| --- | --- |
| Position:1 | ID:143 |
| Employee ID | 143 |

|  |  |
| --- | --- |
| Position:2 | ID:152 |
| Employee ID | 152 |

1. Insert the data
2. Display the data
3. Search for a record:
4. Modify a record:
5. Delete a record:
6. EXIT

3

Enter the key to be searched

143

Employee ID 143

Employee name PQR

ENter your choice

1. Insert the data
2. Display the data
3. Search for a record:
4. Modify a record:
5. Delete a record:
6. EXIT

4

Enter the key to be modified

152

Enter the new details

Enter new name

QVC

Enter new ID

106

ENter your choice

1. Insert the data
2. Display the data
3. Search for a record:
4. Modify a record:
5. Delete a record:
6. EXIT

2

Position:0 ID:123

Employee ID 123

Employee name ABC

|  |  |
| --- | --- |
| Position:1 | ID:143 |
| Employee ID | 143 |

Employee name PQR

|  |  |
| --- | --- |
| Position:2 | ID:106 |
| Employee ID | 106 |

Employee name QVC

ENter your choice

1. Insert the data
2. Display the data
3. Search for a record:
4. Modify a record:
5. Delete a record:
6. EXIT

5

Enter the key to be deleted

143

Record Deleted

ENter your choice

1. Insert the data
2. Display the data
3. Search for a record:
4. Modify a record:
5. Delete a record:
6. EXIT

|  |  |
| --- | --- |
| 2 |  |
| Position:0 | ID:123 |
| Employee ID | 123 |

Employee name ABC

|  |  |
| --- | --- |
| Position:2 | ID:106 |
| Employee ID | 106 |

Employee name QVC

ENter your choice

1. Insert the data
2. Display the data
3. Search for a record:
4. Modify a record:
5. Delete a record:
6. EXIT

6

Enter Valid Choice

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