**Institute of Computer Technology**

**B. Tech. Computer Science and Engineering**

**Sub: ESFP – II**

**Course Code: 2CSE203**

**Practical – 13**

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**Sem - 2**

**Branch: CS**

**Class: B**

**Batch: 25**

**Objective:**

To learn and implement object-oriented file handling concept, for create file,open file, write text into file, read text from file, close file by using some pre-defined classes like (ofstream, ifstream) with some pre-defined mode like (out mode, in mode, app mode, etc) and their function like good function, is\_open (), and etc.

**Problem Definition-1:** Complete the code for the object assigned to you to satisfy the following specifications.

**Code:**

#include <iostream>

#include <fstream>

#include <string>

using namespace std;

class Employee {

private:

    string name;

    int id;

    double salary;

    string designation;

public:

    void input() {

        cout << "Enter name: ";

        cin >> name;

        cout << "Enter ID: ";

        cin >> id;

        cout << "Enter salary: ";

        cin >> salary;

        cout << "Enter designation: ";

        cin >> designation;

    }

    void display() {

        cout << "Name: " << name << endl;

        cout << "ID: " << id << endl;

        cout << "Salary: " << salary << endl;

        cout << "Designation: " << designation << endl;

    }

    string getName() {

        return name;

    }

    int getID() {

        return id;

    }

    double getSalary() {

        return salary;

    }

    string getDesignation() {

        return designation;

    }

};

void addData() {

    Employee emp;

    emp.input();

    ofstream file("data.txt", ios::app);

    if (file.is\_open()) {

        file << emp.getName() << " " << emp.getID() << " " << emp.getSalary() << " " << emp.getDesignation() << endl;

        file.close();

        cout << "Data added successfully!" << endl;

    } else {

        cout << "Unable to open file." << endl;

    }

}

void viewData() {

    ifstream file("data.txt");

    if (file.is\_open()) {

        string name;

        int id;

        double salary;

        string designation;

        while (file >> name >> id >> salary >> designation) {

            cout << "Name: " << name << ", ID: " << id << ", Salary: " << salary << ", Designation: " << designation << endl;

        }

        file.close();

    } else {

        cout << "Unable to open file." << endl;

    }

}

void deleteData() {

    string name;

    cout << "Enter name to delete: ";

    cin >> name;

    ifstream file("data.txt");

    if (file.is\_open()) {

        ofstream temp("temp.txt");

        string n;

        int id;

        double salary;

        string designation;

        while (file >> n >> id >> salary >> designation) {

            if (n != name) {

                temp << n << " " << id << " " << salary << " " << designation << endl;

            }

        }

        file.close();

        temp.close();

        remove("data.txt");

        rename("temp.txt", "data.txt");

        cout << "Data deleted successfully!" << endl;

    } else {

        cout << "Unable to open file." << endl;

    }

}

void updateData() {

    string name;

    cout << "Enter name to update: ";

    cin >> name;

    ifstream file("data.txt");

    if (file.is\_open()) {

        ofstream temp("temp.txt");

        string n;

        int id;

        double salary;

        string designation;

        while (file >> n >> id >> salary >> designation) {

            if (n != name) {

                temp << n << " " << id << " " << salary << " " << designation << endl;

            } else {

                Employee emp;

                emp.input();

                temp << emp.getName() << " " << emp.getID() << " " << emp.getSalary() << " " << emp.getDesignation() << endl;

            }

        }

        file.close();

        temp.close();

        remove("data.txt");

        rename("temp.txt", "data.txt");

        cout << "Data updated successfully!" << endl;

    } else {

        cout << "Unable to open file." << endl;

    }

}

void searchData() {

    string name;

    cout << "Enter name to search: ";

    cin >> name;

    ifstream file("data.txt");

    if (file.is\_open()) {

        string n;

        int id;

        double salary;

        string designation;

        bool found = false;

        while (file >> n >> id >> salary >> designation) {

            if (n == name) {

                cout << "Name: " << n << ", ID: " << id << ", Salary: " << salary << ", Designation: " << designation << endl;

                found = true;

                break;

            }

        }

        file.close();

        if (!found) {

            cout << "Data not found." << endl;

        }

    } else {

        cout << "Unable to open file." << endl;

    }

}

int main() {

    int choice;

    do {

        cout << "1. Add data" << endl;

        cout << "2. View data" << endl;

        cout << "3. Delete data" << endl;

        cout << "4. Update data" << endl;

        cout << "5. Search data" << endl;

        cout << "0. Exit" << endl;

        cout << "Enter your choice: ";

        cin >> choice;

        switch (choice) {

            case 1:

                addData();

                break;

            case 2:

                viewData();

                break;

            case 3:

                deleteData();

                break;

            case 4:

                updateData();

                break;

            case 5:

                searchData();

                break;

            case 0:

                cout << "Exiting..." << endl;

                break;

            default:

                cout << "Invalid choice. Please try again." << endl;

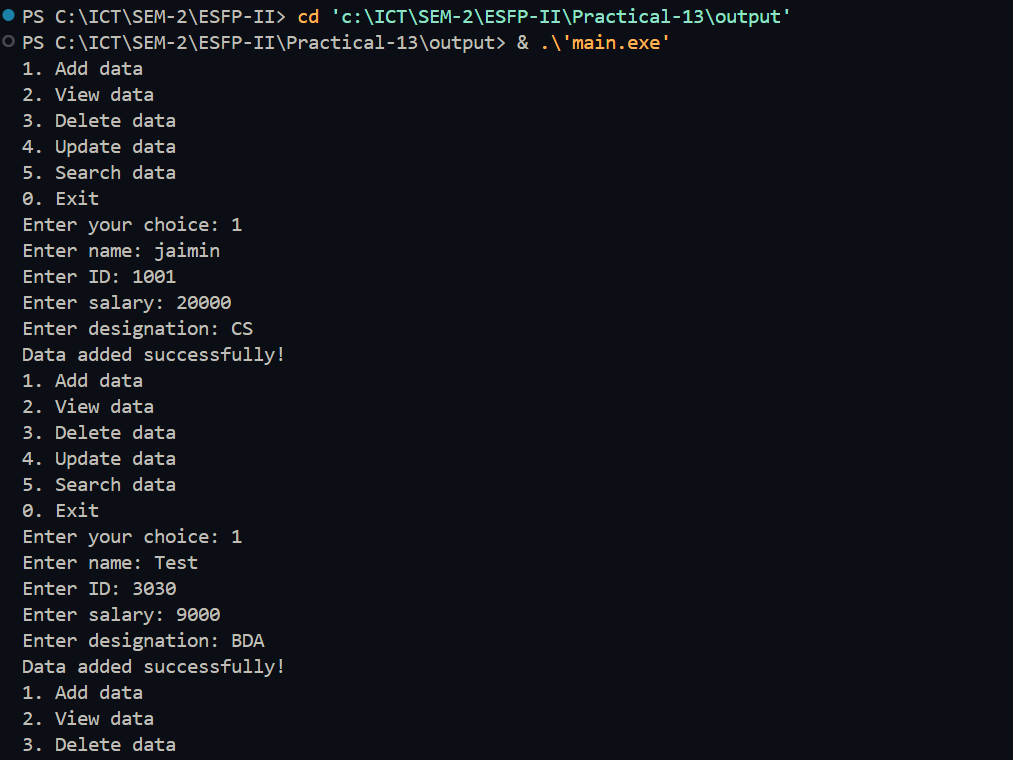
        }

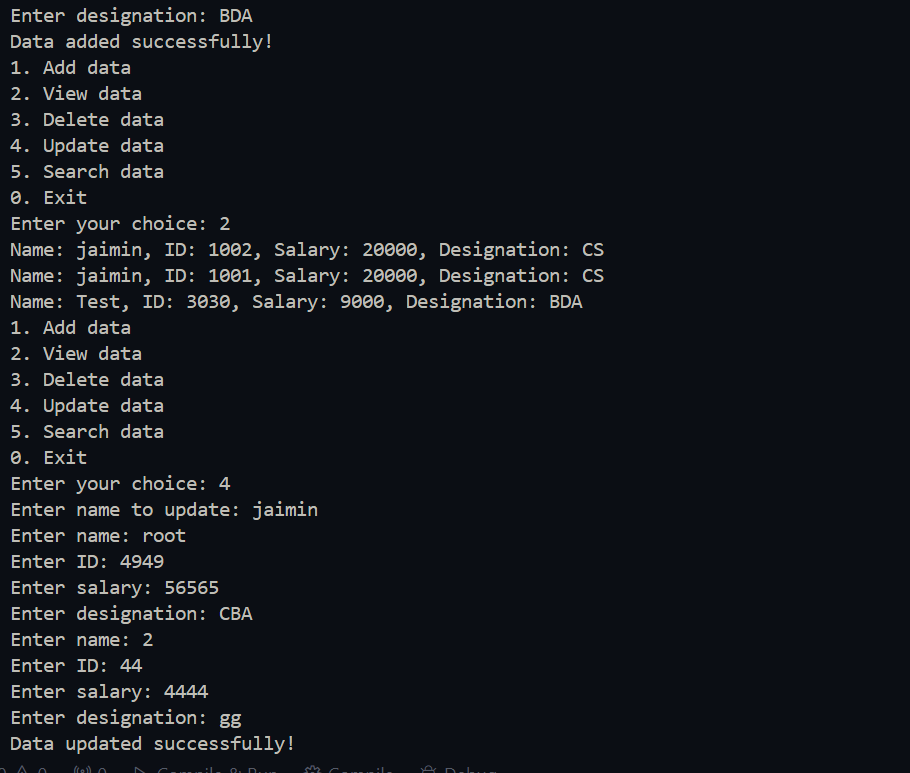
    } while (choice != 0);

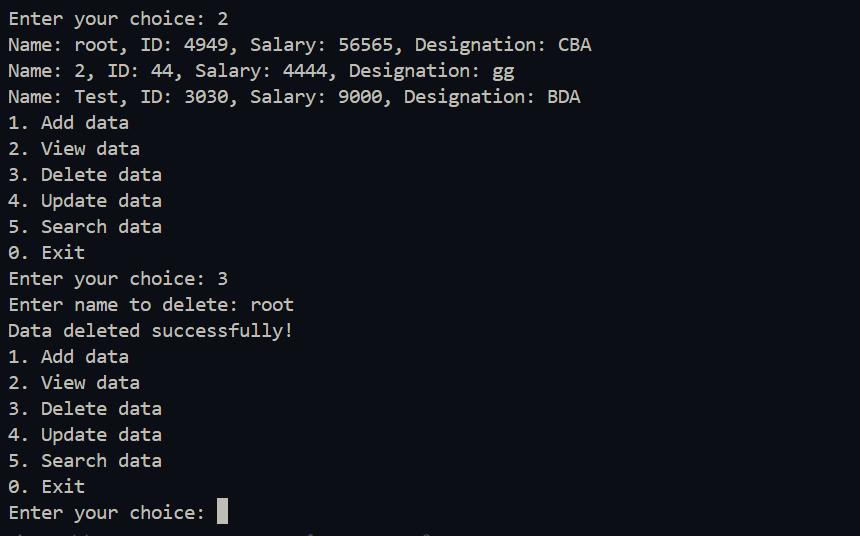
    return 0;

}

**Output –**

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