Experiment 2.4

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Semester: 6 **Date of Performance:06-03-2024**
Subject Name: Java Lab
Subject Code:21CSH-319

1. **Aim:** Create a menu based Java application with the following options.1. Add an Employee2.Display All3.Exit If option 1 is selected, the application should gather details of the employee like employee name, employee id, designation and salary and store it in a file. If option 2 is selected, the application should display all the employee details. If option 3 is selected the application should exit.

2. **Objective:**

    • To learn about concept of File Handling in java.

    • To learn about LinkedList, Exception Handling in java.

3. **Algo. /Approach and output:**

```java
import java.io.*;
import java.util.*;

class Employee implements Serializable {
    private static final long serialVersionUID = 1L;
    private int id;
    private String name;
    private int age;
    private double salary;

    public Employee(int id, String name, int age, double salary) {
        this.id = id;
```

```java
        this.name = name;
        this.age = age;
        this.salary = salary;
    }

    @Override
    public String toString() {
        return id + " " + name + " " + age + " " + salary;
    }
}

public class emp2_4 {
    private static final String FILE_NAME = "employee_data.txt";
    private static final Scanner scanner = new Scanner(System.in);
    private static final List<Employee> employees = new ArrayList<>();

    public static void main(String[] args) {
        loadDataFromFile();

        while (true) {
            System.out.println("\nMain Menu");
            System.out.println("1. Add an Employee");
            System.out.println("2. Display All");
            System.out.println("3. Exit");

            System.out.print("Enter your choice: ");
            int choice = scanner.nextInt();
            scanner.nextLine(); // Consume newline

            switch (choice) {
                case 1:
                    addEmployee();
```

```
                break;
            case 2:
                displayAllEmployees();
                break;
            case 3:
                saveDataToFile();
                System.out.println("Exiting the System");
                return;
            default:
                System.out.println("Invalid choice!");
        }
    }
}

private static void addEmployee() {
    System.out.print("Enter Employee ID: ");
    int id = scanner.nextInt();
    scanner.nextLine(); // Consume newline
    System.out.print("Enter Employee Name: ");
    String name = scanner.nextLine();
    System.out.print("Enter Employee Age: ");
    int age = scanner.nextInt();
    System.out.print("Enter Employee Salary: ");
    double salary = scanner.nextDouble();

    employees.add(new Employee(id, name, age, salary));
    System.out.println("Employee added successfully.");
}

private static void displayAllEmployees() {
    System.out.println("----Report-----");
    for (Employee emp : employees) {
```

```java
            System.out.println(emp);
        }
        System.out.println("----End of Report-----");
    }

    private static void saveDataToFile() {
        try (ObjectOutputStream oos = new ObjectOutputStream(new
FileOutputStream(FILE_NAME))) {
            oos.writeObject(employees);
            System.out.println("Data saved to file: " + FILE_NAME);
        } catch (IOException e) {
            e.printStackTrace();
        }
    }

    @SuppressWarnings("unchecked")
    private static void loadDataFromFile() {
        File file = new File(FILE_NAME);
        if (file.exists()) {
            try (ObjectInputStream ois = new ObjectInputStream(new
FileInputStream(FILE_NAME))) {
                employees.addAll((List<Employee>) ois.readObject());
            } catch (IOException | ClassNotFoundException e) {
                e.printStackTrace();
            }
        }
    }
}
```

Output:-


```
Main Menu
1. Add an Employee
2. Display All
3. Exit
Enter your choice: 1
Enter Employee ID: 123
Enter Employee Name: hello
Enter Employee Age: 19
Enter Employee Salary: 12000
Employee added successfully.

Main Menu
1. Add an Employee
2. Display All
3. Exit
Enter your choice: 1
Enter Employee ID: 1234
Enter Employee Name: helllllooo
Enter Employee Age: 20
Enter Employee Salary: 130000
```



```
Enter Employee ID: 1234
Enter Employee Name: helllllooo
Enter Employee Age: 20
Enter Employee Salary: 130000
Employee added successfully.

Main Menu
1. Add an Employee
2. Display All
3. Exit
Enter your choice: 2
----Report-----
123 hello 19 12000.0
1234 helllllooo 20 130000.0
----End of Report-----

Main Menu
1. Add an Employee
2. Display All
3. Exit
Enter your choice:
```