



DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Discover. Learn. Empower.

Experiment -2.4

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Section/Group: 616- B

Semester: 5th

Subject Name: PBLJ LAB

UID: 20BCS9256

Branch: CSE

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1. Aim:

Create a menu-based Java application with the following options.

1. Add an Employee
2. Display All
3. 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. Software Requirements:

Eclipse IDE - (Java)

3. Steps for experiment/code:

```
package exp.seven;
```

```
import java.io.File;  
import java.io.FileInputStream;  
import java.io.FileOutputStream;  
import java.io.IOException;  
import java.io.ObjectInputStream;  
import java.io.ObjectOutputStream;  
import java.io.Serializable;  
import java.util.ArrayList;  
import java.util.Scanner;
```

```
@SuppressWarnings("serial")  
class Employee implements Serializable {
```



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```
int id;  
String name;  
float salary;  
long contact_no;  
String email_id;
```

```
public Employee(int id, String name, float salary, long contact_no, String email_id) {  
    this.id = id;  
    this.name = name;  
    this.salary = salary;  
    this.contact_no = contact_no;  
    this.email_id = email_id;  
}
```

```
public String toString() {  
    return ("Employee Details :\n" + " ID: " + this.id + " Name: " + this.name + " Salary: " +  
this.salary  
        + " Contact No: " + this.contact_no + " Email-id: " + this.email_id);  
}  
}
```

```
public class Main {
```

```
    static void display(ArrayList<Employee> al) {  
        System.out.println("\n-----Employee List-----\n");  
        System.out  
            .println(String.format("%-10s%-15s%-10s%-20s%-10s", "ID", "Name",  
"salary", "contact-no", "Email-Id"));  
        for (Employee e : al) {  
            System.out.println(  
                String.format("%-10s%-15s%-10s%-15s%-10s", e.id, e.name,  
e.salary, e.contact_no, e.email_id));  
        }  
    }
```

```
@SuppressWarnings("unchecked")  
public static void main(String[] args) {  
    int id;  
    String name;  
    float salary;  
    long contact_no;  
    String email_id;
```



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```
Scanner sc = new Scanner(System.in);
ArrayList<Employee> al = new ArrayList<Employee>();

File f = null;
FileInputStream fis = null;
ObjectInputStream ois = null;
FileOutputStream fos = null;
ObjectOutputStream oos = null;
try {
    f = new File("C://Users//Hp//eclipse-workspace//Semester
5//src//exp//seven//employee.txt");
    if (f.exists()) {
        fis = new FileInputStream(f);
        ois = new ObjectInputStream(fis);
        al = (ArrayList<Employee>) ois.readObject();
    }
} catch (Exception exp) {
    System.out.println(exp);
}
do {
    System.out.println("\n*****Welcome to the Employee Management
System*****\n");
    System.out.println("1). Add Employee to the DataBase\n" + "2). Search for
Employee\n"
        + "3). Edit Employee details\n" + "4). Delete Employee Details\n"
        + "5). Display all Employees working in this company\n" + "6).
EXIT\n");
    System.out.print("Enter your choice : ");
    int ch = sc.nextInt();

    switch (ch) {
    case 1:
        System.out.println("\nEnter the following details to ADD list:-");
        System.out.print("Enter ID: ");
        id = sc.nextInt();
        System.out.print("Enter Name: ");
        name = sc.next();
        System.out.print("Enter Salary: ");
        salary = sc.nextFloat();
        System.out.print("Enter Contact No: ");
        contact_no = sc.nextLong();
        System.out.print("Enter Email-ID: ");
        email_id = sc.next();
```



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```
al.add(new Employee(id, name, salary, contact_no, email_id));
display(al);
break;
case 2:
    System.out.print("Enter the Employee ID to search: ");
    id = sc.nextInt();
    int i = 0;
    for (Employee e : al) {
        if (id == e.id) {
            System.out.println(e + "\n");
            i++;
        }
    }
    if (i == 0) {
        System.out.println("\nEmployee Details are not available, Please
enter a valid ID!!");
    }
    break;
case 3:
    System.out.println("\nEnter the Employee ID to EDIT the details");
    id = sc.nextInt();
    int j = 0;
    for (Employee e : al) {
        if (id == e.id) {
            j++;
            do {
                int ch1 = 0;
                System.out.println("\nEDIT Employee Details :\n" +
"1). Employee ID\n" + "2). Name\n"
+ "3). Salary\n" + "4). Contact No.\n" +
"5). Email-ID\n" + "6). GO BACK\n");
                System.out.println("Enter your choice : ");
                ch1 = sc.nextInt();
                switch (ch1) {
                    case 1:
                        System.out.println("\nEnter new Employee
ID:");
                        e.id = sc.nextInt();
                        System.out.println(e + "\n");
                        break;
                    case 2:
                        System.out.println("Enter new Employee
Name:");
```



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```
Salary:");
        e.name = sc.nextLine();
        System.out.println(e + "\n");
        break;
    case 3:
        System.out.println("Enter new Employee

        e.salary = sc.nextFloat();
        System.out.println(e + "\n");
        break;
    case 4:
        System.out.println("Enter new Employee

        e.contact_no = sc.nextLong();
        System.out.println(e + "\n");
        break;
    case 5:
        System.out.println("Enter new Employee

        e.email_id = sc.next();
        System.out.println(e + "\n");
        break;
    case 6:
        j++;
        break;
    default:
        System.out.println("\nEnter a correct choice

        break;
    }
} while (j == 1);
}
if (j == 0) {
    System.out.println("\nEmployee Details are not available, Please
enter a valid ID!!");
}

break;
case 4:
    System.out.println("\nEnter Employee ID to DELETE from the Databse

:");

    id = sc.nextInt();
    int k = 0;
```



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```
        try {
            for (Employee e : al) {
                if (id == e.id) {
                    al.remove(e);
                    display(al);
                    k++;
                }
            }
            if (k == 0) {
                System.out.println("\nEmployee Details are not available,
Please enter a valid ID!!");
            }
        } catch (Exception ex) {
            System.out.println(ex);
        }
        break;
case 5:
    try {
        al = (ArrayList<Employee>) ois.readObject();
    } catch (ClassNotFoundException e2) {
        System.out.println(e2);
    } catch (Exception e2) {
        System.out.println(e2);
    }
    display(al);
    break;
case 6:
    try {
        fos = new FileOutputStream(f);
        oos = new ObjectOutputStream(fos);
        oos.writeObject(al);
    } catch (IOException e1) {
        e1.printStackTrace();
    } catch (Exception e2) {
        e2.printStackTrace();
    } finally {
        try {
            fis.close();
            ois.close();
            fos.close();
            oos.close();
        } catch (Exception e1) {
            e1.printStackTrace();
        }
    }
}
```



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```
        }  
    }  
    System.out.println("\nYou have chosen EXIT !! Saving Files and closing  
the tool.");  
    sc.close();  
    System.exit(0);  
    break;  
default:  
    System.out.println("\nEnter a correct choice from the List :");  
    break;  
}  
} while (true);  
}  
}
```

4. Output:

```
*****Welcome to the Employee Management System*****  
  
1). Add Employee to the DataBase  
2). Search for Employee  
3). Edit Employee details  
4). Delete Employee Details  
5). Display all Employees working in this company  
6). EXIT  
  
Enter your choice : 1  
  
Enter the following details to ADD list:-  
Enter ID: 101  
Enter Name: Yash  
Enter Salary: 23000  
Enter Contact No: 12345678  
Enter Email-ID: yash@gmail.com  
  
-----Employee List-----  
  
ID      Name      salary    contact-no    Email-Id  
101     Yash      23000.0   12345678     yash@gmail.com
```

```
*****Welcome to the Employee Management System*****  
  
1). Add Employee to the DataBase  
2). Search for Employee  
3). Edit Employee details  
4). Delete Employee Details  
5). Display all Employees working in this company  
6). EXIT  
  
Enter your choice : 2  
Enter the Employee ID to search: 101  
Employee Details :  
ID: 101 Name: Yash Salary: 23000.0 Contact No: 12345678 Email-id: yash@gmail.com  
  
*****Welcome to the Employee Management System*****  
  
1). Add Employee to the DataBase  
2). Search for Employee  
3). Edit Employee details  
4). Delete Employee Details  
5). Display all Employees working in this company
```



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```
*****Welcome to the Employee Management System*****

1). Add Employee to the DataBase
2). Search for Employee
3). Edit Employee details
4). Delete Employee Details
5). Display all Employees working in this company
6). EXIT

Enter your choice : 1

Enter the following details to ADD list:-
Enter ID: 102
Enter Name: Ankit
Enter Salary: 45000
Enter Contact No: 987654321
Enter Email-ID: ankit@gmail.com

-----Employee List-----

ID      Name      salary    contact-no    Email-Id
---
```

```
*****Welcome to the Employee Management System*****

1). Add Employee to the DataBase
2). Search for Employee
3). Edit Employee details
4). Delete Employee Details
5). Display all Employees working in this company
6). EXIT

Enter your choice : 3

Enter the Employee ID to EDIT the details
102

EDIT Employee Details :
1). Employee ID
2). Name
3). Salary
4). Contact No.
5). Email-ID
6). GO BACK
```




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```

C:\Users\Ankit> cd C:\Program Files\Java\jdk-11.0.2\bin
C:\Program Files\Java\jdk-11.0.2\bin> java -jar C:\Users\Ankit\Downloads\EmployeeManagementSystem.jar
Enter the Employee ID to EDIT the details:
102

EDIT Employee Details :
1). Employee ID
2). Name
3). Salary
4). Contact No.
5). Email-ID
6). GO BACK

Enter your choice :
5
Enter new Employee Email-ID :
ankit123@gmail.com
Employee Details :
ID: 102 Name: Ankit Salary: 45000.0 Contact No: 987654321 Email-id: ankit123@gmail.com

EDIT Employee Details :
1). Employee ID

```

```

C:\Users\... \Program Files\... \16.01\... \10751.exe
EDIT Employee Details :
1). Employee ID
2). Name
3). Salary
4). Contact No.
5). Email-ID
6). GO BACK

Enter your choice :
6

*****Welcome to the Employee Management System*****

1). Add Employee to the DataBase
2). Search for Employee
3). Edit Employee details
4). Delete Employee Details
5). Display all Employees working in this company
6). EXIT

Enter your choice : 4

```

```

C:\Users\ankit> cd C:\Program Files\Python Software Foundation\Python37\Scripts
C:\Program Files\Python Software Foundation\Python37\Scripts> python EmployeeManagementSystem.py
Enter your choice :
6

*****Welcome to the Employee Management System*****

1). Add Employee to the DataBase
2). Search for Employee
3). Edit Employee details
4). Delete Employee Details
5). Display all Employees working in this company
6). EXIT

Enter your choice : 4

Enter Employee ID to DELETE from the Database :
101

-----Employee list-----

ID          Name          salary      contact-no      Email-Id
102         Ankit         45000.0     987654321      ankit123@gmail.com

```




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Evaluation Grid (To be created per the faculty's SOP and Assessment guidelines) :

Sr. No.	Parameters	Marks Obtained	Maximum Marks
1.	Worksheet completion including writing learning objectives/Outcomes. (To be submitted at the end of the day).		
2.	Post-Lab Quiz Result.		
3.	Student Engagement in Simulation/Demonstration/Performance and Controls/Pre-Lab Questions.		
	Signature of Faculty (with Date):	Total Marks Obtained:	