Experiment 4

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Subject Name:JAVA **Subject Code: 22CSH-359**

1. **Aim:** Write a Program to perform the basic operations like insert, delete, display and search in list. List contains String object items where these operations are to be performed.

2. **Implementation/Code:**

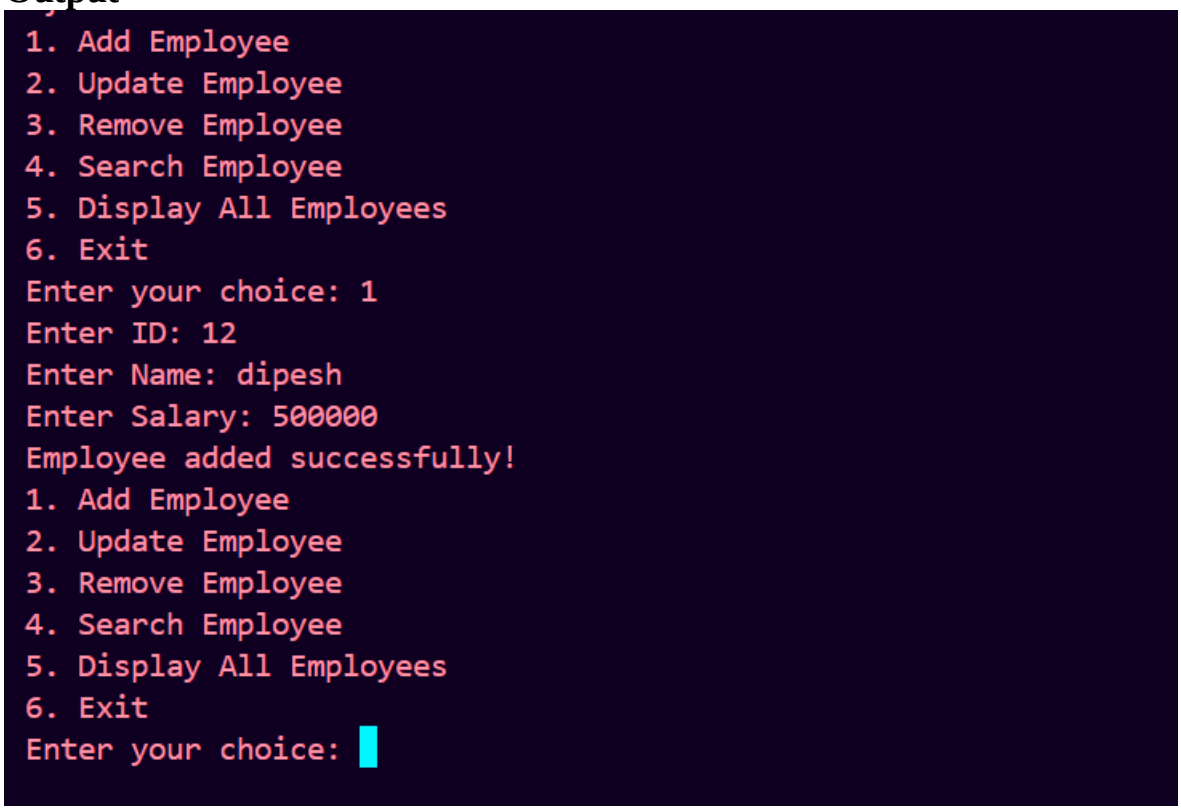
```
import java.util.*;

class Employee {
    int id;
    String name;
    double salary;

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

    public String toString() {
        return "ID: " + id + ", Name: " + name + ", Salary: " + salary;
    }
}

public class EmployeeManagement {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        List<Employee> employees = new ArrayList<>();

        while (true) {
            System.out.println("1. Add Employee");
```

```
System.out.println("2. Update Employee");
System.out.println("3. Remove Employee");
System.out.println("4. Search Employee");
System.out.println("5. Display All Employees");
System.out.println("6. Exit");
System.out.print("Enter your choice: ");

int choice = scanner.nextInt();
switch (choice) {
   case 1:
      System.out.print("Enter ID: ");
      int id = scanner.nextInt();
      scanner.nextLine();
      System.out.print("Enter Name: ");
      String name = scanner.nextLine();
      System.out.print("Enter Salary: ");
      double salary = scanner.nextDouble();
      employees.add(new Employee(id, name, salary));
      System.out.println("Employee added successfully!");
      break;

   case 2:
      System.out.print("Enter Employee ID to update: ");
      int updateId = scanner.nextInt();
      boolean found = false;
      for (Employee emp : employees) {
         if (emp.id == updateId) {
            scanner.nextLine();
            System.out.print("Enter new Name: ");
            emp.name = scanner.nextLine();
            System.out.print("Enter new Salary: ");
            emp.salary = scanner.nextDouble();
            System.out.println("Employee updated successfully!");
            found = true;
            break;
         }
      }
      if (!found) {
         System.out.println("Employee not found!");
      }
      break;
```

```
            case 3:
                System.out.print("Enter Employee ID to remove: ");
                int removeId = scanner.nextInt();
                Iterator<Employee> iterator = employees.iterator();
                boolean removed = false;
                while (iterator.hasNext()) {
                    Employee emp = iterator.next();
                    if (emp.id == removeId) {
                        iterator.remove();
                        System.out.println("Employee removed successfully!");
                        removed = true;
                        break;
                    }
                }
                if (!removed) {
                    System.out.println("Employee not found!");
                }
                break;

            case 4:
                System.out.print("Enter Employee ID to search: ");
                int searchId = scanner.nextInt();
                boolean foundSearch = false;
                for (Employee emp : employees) {
                    if (emp.id == searchId) {
                        System.out.println("Employee Found: " + emp);
                        foundSearch = true;
                        break;
                    }
                }
                if (!foundSearch) {
                    System.out.println("Employee not found!");
                }
                break;

            case 5:
                if (employees.isEmpty()) {
                    System.out.println("No employees found.");
                } else {
                    System.out.println("Employee List:");
                    for (Employee emp : employees) {
                        System.out.println(emp);
```

```
                    }
                }
                break;

            case 6:
                System.out.println("Exiting program...");
                scanner.close();
                return;

            default:
                System.out.println("Invalid choice! Please try again.");
        }
    }
}
```

3. **Output**



4. **Learning Outcome**
   1. **Proficiency in Java Basics**
   2. **Understanding Data Structures**
   3. **Improved Problem-Solving Skills**
   4. **Application of Encapsulation and Modularity:**