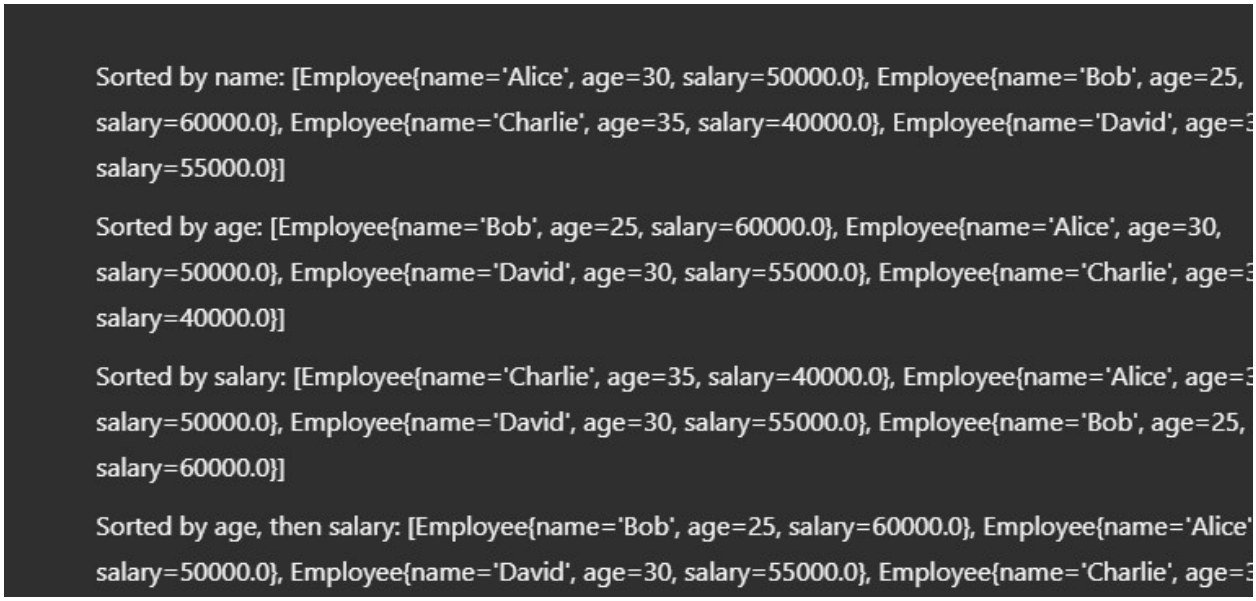
1) Write a program to sort a list of Employee objects (name, age, salary) using lambda expressions in java

Code:

```
import java.util.*;

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

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

   // toString method for printing
   @Override
   public String toString() {
      return "Employee{name='" + name + "', age=" + age + ", salary=" +
salary + "}";
   }
}

public class Main {
   public static void main(String[] args) {
      List<Employee> employees = new ArrayList<>(Arrays.asList(
         new Employee("Alice", 30, 50000),
         new Employee("Bob", 25, 60000),
         new Employee("Charlie", 35, 40000),
         new Employee("David", 30, 55000)
```

```
        ));

        // Sort by name
        employees.sort(Comparator.comparing(e -> e.name));
        System.out.println("Sorted by name: " + employees);

        // Sort by age
        employees.sort(Comparator.comparing(e -> e.age));
        System.out.println("Sorted by age: " + employees);

        // Sort by salary
        employees.sort(Comparator.comparing(e -> e.salary));
        System.out.println("Sorted by salary: " + employees);

        // Sort by multiple fields: age, then salary
        employees.sort(Comparator.comparing(Employee::getAge)
                               .thenComparing(Employee::getSalary));
        System.out.println("Sorted by age, then salary: " + employees);
    }

    // Getters for method references
    private static int getAge(Employee e) {
        return e.age;
    }

    private static double getSalary(Employee e) {
        return e.salary;
    }
}
```

OUTPUT:



2) Create a program to use lambda expressions and stream operations to filter students scoring above 75%, sort them by marks, and display their names.
in java

Code:

```
import java.util.*;
import java.util.stream.*;

class Student {
   String name;
   double marks;

   // Constructor
   public Student(String name, double marks) {
      this.name = name;
      this.marks = marks;
   }
```

```
    // Getter for marks
    public double getMarks() {
        return marks;
    }

    // Getter for name
    public String getName() {
        return name;
    }
}

public class Main {
    public static void main(String[] args) {
        List<Student> students = Arrays.asList(
            new Student("Alice", 82.5),
            new Student("Bob", 67.0),
            new Student("Charlie", 91.2),
            new Student("David", 74.9),
            new Student("Eve", 88.6)
        );

        // Filter students scoring above 75%, sort by marks, and display names
        List<String> topStudents = students.stream()
            .filter(s -> s.getMarks() > 75)

.sorted(Comparator.comparingDouble(Student::getMarks).reversed())
            .map(Student::getName)
            .collect(Collectors.toList());

        System.out.println("Students scoring above 75% (sorted by marks): " +
topStudents);
    }
}
```

OUTPUT: