

UniversityOrganisationalElement.java 1 ×

UniversityOrganisationalElement.java > ...

```
5  */
6  package tutorial5.Q2_compositeDesignPattern;
7
8  /**
9   *
10  * @author phaedramohammed
11  */
12 public interface UniversityOrganisationalElement {
13     public int countEmployees();
14     public String getName(); //not in handout - for testing
15 }
16
```



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```
6 package tutorial5.Q2_compositeDesignPattern;
7
8 import java.util.ArrayList;
9
10 /**
11  *
12  * @author phaedramohammed
13  */
14 public class Department implements UniversityOrganisationalElement{
15     private ArrayList<UniversityOrganisationalElement> units;
16     private String name;
17
18     public Department(String name){
19         this.name = name;
20         units = new ArrayList<UniversityOrganisationalElement>();
21     }
22
23     public int countEmployees(){
24         int numEmployees=0;
25         for(UniversityOrganisationalElement e: units)
26             numEmployees += e.countEmployees();
27         return numEmployees;
28     }
29
30     public void addUniversityOrganisationalElement(UniversityOrganisationalElement element){
31         units.add(element);
32     }
33
34     public String getName(){
35         return name;
36     }
37 }
38
```

Unit.java 1 ×

Unit.java > ...



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```
5  */
6  package tutorial5.Q2_compositeDesignPattern;
7
8  /**
9   *
10  * @author phaedramohammed
11  */
12 public class Unit implements UniversityOrganisationalElement{
13     private int numEmployees;
14     private String name;
15
16     public Unit(String name){
17         this.name = name;
18         numEmployees = 0;
19     }
20     public void addEmployees(int num){
21         numEmployees = numEmployees + num;
22     }
23     public int countEmployees(){
24         return numEmployees;
25     }
26
27     public String getName(){
28         return name;
29     }
30 }
31
```

Faculty.java 1 x

Faculty.java > ...

```
6 package tutorial5.Q2_compositeDesignPattern;
7 import java.util.ArrayList;
8 /**
9  *
10  * @author phaedramohammed
11  */
12 public class Faculty implements UniversityOrganisationalElement{
13     private ArrayList<UniversityOrganisationalElement> elements;
14     private String name;
15
16     public Faculty(String name){
17         this.name = name;
18         elements = new ArrayList<UniversityOrganisationalElement>();
19     }
20
21     public int countEmployees(){
22         int numEmployees=0;
23         for(UniversityOrganisationalElement e: elements)
24             numEmployees += e.countEmployees();
25         return numEmployees;
26     }
27
28     public void addUniversityOrganisationalElement(UniversityOrganisationalElement element){
29         this.elements.add(element);
30     }
31
32     public String getName(){
33         return name;
34     }
35 }
36
```



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