

ECE 325 OBJECT-ORIENTED SOFTWARE DES (LEC A1 Fa18)

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Assignment 5: Interfaces

·Source code: *Coffee.java*; *CoffeeTest.java*; *PersonTest.java*.

·Due date: **Thursday 1st of November (5:00 pm)**. A working copy of your solution must be submitted to eClass before this date.

Exercise 1

Java defines a `Comparable` interface (`java.lang.Comparable`); this interface is a parameterized interface. We will discuss parameterized classes and interfaces in detail later in the course. For now, you do not need to know too much about parameterization -- just use it.

Read the code in *Coffee.java*. You are required to complete the class definition to allow collections of coffees to be sorted by the strength.

Find the code from *CoffeeTest.java*. What imports are required to allow it to compile? And how would I rewrite this class to utilize JUnit? Create a JUnit project as submission.

Exercise 2

Consider the code below. It describes 5 types either classes or interfaces.

```
U u; G g; B b; Z z; X x;
```

The following assignments are all legal and compile:

```
u = z; x = b; g = u; x = u;
```

However, the following assignments are all illegal and cause compilation errors:




```
u = b; x = g; b = u; z = u; g = x;
```

What can you state about the types and their relationships (to each other)? Provide at least one possible answer.

Exercise 3

The collections library has a class `TreeSet` (`java.util.TreeSet`). It is another parameterised class which is an example of a sorted set. That is, elements in this set are kept in order. Construct classes `Person` and `PersonComparator` to make the `runTest` in `PersonTest.java` successfully complete. This method checks if `Person` objects are correctly ordered by their ages (age is the only attribute of `Person`). `PersonComparator` is required to implement interface `Comparator` (`java.util.Comparator`). `Comparator` is another parameterised interface -- parameterization is common in Java.

What imports are required to allow it to compile? And how would I rewrite this class to utilize JUnit? Create a JUnit project as submission.

-  `Coffee.java` +
-  `CoffeeTest.java` +
-  `PersonTest.java` +

Submission status

Attempt number	This is attempt 1 (1 attempts allowed).
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Submission status	Submitted for grading
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Grading status	Graded
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Due date	Thursday, 1 November 2018, 5:00 PM
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Time remaining	Assignment was submitted 4 hours 34 mins early
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Last modified	Thursday, 1 November 2018, 12:25 PM
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File submissions	
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 [Assignment5.zip](#) +
[Export to portfolio](#)

Submission comments	
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 [Comments \(0\)](#)

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Make changes to your submission

Feedback

Grade	9.00 / 10.00
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Graded on	Thursday, 8 November 2018, 12:00 PM
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Graded by	 Mingjun Zhao
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Feedback comments	Part 3: (-1) Unit testing: does not test if the TreeSet is ordered.
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