This lab covers sorting, equals, inheritance, interface and exceptions.

The Java docs, text file, and the driver class for this lab are provided to you separately. You have to define all the classes and their relationships by referring the Java docs.

**Note:** The name of the project will be your “*Lastname*\_ Lab08SortingsAndExceptions”. For example: “Smith\_ Lab08SortingsAndExceptions”.

All classes must be placed in a package named “sortingandexceptions”.

Follow the below instructions:

1. Use ‘@’ annotation where necessary.
2. Use proper naming conventions.
3. You can draw the UML diagram by referring the Java doc. This is optional and do not submit for grading.

**How to View Javadoc:**

Go to “Javadoc” -> “index.html” to access the javadocs.

Copy the class **Driver** and **property.txt** into your project and follow the instructions provided in the **Driver** class.

**Sample Output:**

Note: toString() method should be printed on the same line.

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Car Insurance List Of Elements: ORIGINAL LIST

Smith CH20Smith Honda 2012 4 660-528-1252

Hayden CA25Hayden Chevy 2010 3 816-626-3405

John AK12John Pontiac 2010 4 816-930-0001

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Bike Insurance List Of Elements: ORIGINAL LIST

Watson NJ30Watson KTM 2014 3 660-528-3404

Peter CO24Peter Yamaha 2013 2 610-567-7777

Clarke AL56Clarke BMW 2009 3 610-567-8901

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Car Insurance List Of Elements: NATURAL ORDER LIST AS PER THE PHONE NUMBER

Smith CH20Smith Honda 2012 4 660-528-1252

Hayden CA25Hayden Chevy 2010 3 816-626-3405

John AK12John Pontiac 2010 4 816-930-0001

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Bike Insurance List Of Elements: NATURAL ORDER LIST AS PER THE PHONE NUMBER

Peter CO24Peter Yamaha 2013 2 610-567-7777

Clarke AL56Clarke BMW 2009 3 610-567-8901

Watson NJ30Watson KTM 2014 3 660-528-3404

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CarInsurance List Of Elements: Sort by Total Years Of Payment Using Anonymous Class in Descending Order:

Smith CH20Smith Honda 2012 4 660-528-1252

John AK12John Pontiac 2010 4 816-930-0001

Hayden CA25Hayden Chevy 2010 3 816-626-3405

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

BikeInsurance List Of Elements: Sorted List overidding natural Order Using separate class according to year of purchase

Clarke AL56Clarke BMW 2009 3 610-567-8901

Peter CO24Peter Yamaha 2013 2 610-567-7777

Watson NJ30Watson KTM 2014 3 660-528-3404

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Checking Equals Method w.r.t vehicle Make Using carInsurance1 and carInsurance2 objects: false

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Calculating Value calcShortTermPlan() method using carInsurance1 object:

The Value Of Insurance to be paid by a person if he/she pays the insurance within 4 years is :$ 360000.00

Calculating Value calcLongTermPlan() method using carInsurance3 object:

The Value Of Insurance to be paid by a person if he/she pays the insurance within 5 years is :$ 550000.00

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Testing checkPhoneNumber() method using 'carInsurance2' object in Car Insurance class:

IncorrectAreaCodeException: Area code must be 660 or 816.

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\*\*\*\*\*\*\*\*\* House Insurance Implementation\*\*\*\*\*\*\*\*\*

Testing checkSSNNumber() method in House Insurance class using apartmentInsurance1:

NonDigitFoundException: Some values in the SSN are not digits.

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Checking Equals Method w.r.t Apartment Number Using studioInsurance and studioInsurance2 objects: false

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Calculating calcShortTermPlan() method using studioInsurance1 object:

The Value Of Insurance to be paid by a person if he/she pays the insurance within 3 years is : $ 231000.00

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Calculating calcLongTermPlan() method using studioInsurance4 object:

The Value Of Insurance to be paid by a person if he/she pays the insurance within 5 years is : $ 550000.00

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Testing calcShortTermPlan() method using studioInsurance3 object:

Value of repayment shouldn't be greater than the insurance duration or less than equal to zero.

Studio Insurance List Of Elements: ORIGINAL LIST

Brad Apt 10 4 3330002233 Dallas 333-000-2233

Liu Apt 45 3 2234445634 Houston 223-444-5634

Time Apt 20 3 3344091232 Chicago 334-409-1232

Ellice Apt 20 6 3402341234 Newyork 340-234-1234

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Studio Insurance List Of Elements: NATURAL ORDER LIST AS PER THE APARTMENT NUMBER

Brad Apt 10 4 3330002233 Dallas 333-000-2233

Time Apt 20 3 3344091232 Chicago 334-409-1232

Ellice Apt 20 6 3402341234 Newyork 340-234-1234

Liu Apt 45 3 2234445634 Houston 223-444-5634

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Studio Insurance List Of Elements: Sort by Total Years Of Payment Using Anonymous Class in Descending Order:

Ellice Apt 20 6 3402341234 Newyork 340-234-1234

Brad Apt 10 4 3330002233 Dallas 333-000-2233

Time Apt 20 3 3344091232 Chicago 334-409-1232

Liu Apt 45 3 2234445634 Houston 223-444-5634