W e b E n g i n e e r i n g

Lab 03 **Marks 100**

Instructions

Work on this lab individually.
You can use your books, notes, handouts etc. but you are not allowed to borrow anything from your peer student.

Objectives

Today's lab will help you to refresh your programming concepts in Java, including Packages and Exception Handling.

What you have to do

Program the following tasks in Java, compile and execute them. The name of your files will be according to the task given in this lab.

Task 1 [50]

Create an interface **vehicleInterface** with three abstract functions: *changeGear(int), speedUp(int), applyBreaks(int)*. Write a class **Vehicle** implementing **vehicleInterface**, and have three data-members *Speed, gear* and *model*. The speed of the vehicle must increase when you call *speedup(int)* and decrease when you call *applyBreaks(int)*.

Create three further classes **Bike, Car** and **Truck**; inheriting from **Vehicle**. Write getter/setter methods for each of the data-members. Override *toString()* to display the current speed and gear with the type and model of your vehicle.

All of these classes should reside in a package ***vehicle.showroom***

Write a **Driver** class in a separate package, to show the execution of your program.

Task 2 [50]

Write a class **store** with an array of user defined size. This class must have following methods:

- *Store()*: This method should input from user (both the index number and the value) and store them in the array. This method should throw back an invalid **IndexException** to its caller method, if the index is not valid. You must have to provide the exception handling code in your program.
- *Print()*: This method print all the valid values of the array.

Write a ***Driver*** class and provide a menu to execute this program in the following way:

1. Add value in the array
2. Print all values
3. Exit

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