



CSE 215L: Programming Language II Lab

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Lab Assignment 1 – Spring 2020

Total Marks: 50, Submission Date: 12.04.2020

Task – 1

10 + 10 + 10 + 20 = 50 points

Vehicle class:

First create an abstract **Vehicle** class that contains code common to all of the vehicles.

1. **Vehicle** class has a **color**, **IDnumber**, and a **model**.
2. The accessor and mutator methods for all three data fields.
3. Also include a void **wheels()** method which is declared abstract.

Car class:

Car class is a subclass of **Vehicle** which implements the **Comparable** interface.

1. Write a class called **Car** which extends the **Vehicle** class and implements the **Comparable** interface.
2. Override the **equals** method in the Object class. Two **Car** objects are equal if their models are the same.
3. In the **Car** class override the **wheels()** method to display “A car has four wheels”.
4. A method named **toString()** that returns a string description for the car.

Bicycle class:

Bicycle class is a subclass of **Vehicle** which implements the **Comparable** interface.

1. Write a class called **Bicycle** which extends the **Vehicle** class and implements the **Comparable** interface.
2. Override the **equals** method in the Object class. Two **Bicycle** objects are equal if their models are the same.
3. In the **Bicycle** class override the **wheels()** method to display “A bicycle has two wheels”.
4. A method named **toString()** that returns a string description for the bicycle.

Test class:

1. Implement a test class to create an array of size 10 which can store both car objects and bicycle objects.
2. Take parameters for the objects and invoke their **toString()** methods.
3. Then invoke their **equals** methods.