**Wentworth Institute of Technology**

**Department of Computer Science and Networking.**

**Comp 2000 Data Structures**

Lab #0

1. Create a class *House* with the private fields: *numberOfUnits* of the type *int, yearBuilt* of the type *int, assessedPrice* of the type *double.* A constructor for this class should have three arguments for initializing these fields.

Add accessors and mutators for all fields except a mutator for *yearBuilt*, and the method *toString*.

1. Create a class StreetHouse which extends House and has additional fields: *streetNumber* of the type *int, homeowner* of the type *String,* and two neighbors: *leftNeighbor* and *rightNeighbor,* both of type *StreetHouse.*

Create two constructors. The first one has an integer argument for initializing*streetNumber*. It assigns zeros to numerical fields, “No name yet” to homeowner, and *null* to the neighbors. The second one has arguments for initializing numerical fields and a string argument for a homeowner. Use ***super*** constructor when creating the constructor for this class. Add accessors for all fields and mutators for all fields except *yearBuilt*. Add the overriding *toString*() method.

1. Define a class *Street* with the following fields: *streetName* of the type String, *houses* as array of type House, and *numberOfHouses* of the type int. Be aware the variable *numberOfHouses* representsthe current number of houses and may be less than the length of the array.

Create a constructor with two fields: *name* as String and *total* of the type int. It should create a street with the given name and the array of the length *total* filled with *null* houses.

Create a method

public boolean *buildHouse* (House h)

which tries to add a house to the array *houses* and returns true if it is successful, false otherwise.

Create a method *toString*() for printing the list of houses for the street.

1. Write a driver program to test all your methods.