Assignment 1 of 3: To be done at home on your own (no partner)

Assignment 1 involves writing a single Java class, as described below in the instructions.

Key Rules:

- **This assignment is due before 11:59pm the night before Lesson 6.**
- **Late submissions will NOT be accepted.**
- **Your project must compile and run. It also must compile and run successfully with the House Testing tool provided on D2L (HouseTest.java) in order to be marked. Read the document “HouseTest--README FIRST.txt” on D2L (learn.bcit.ca).**
    - **If your class does not compile, you will receive a mark of 0.**
- **This is an individual assignment. Group work on this will be considered plagiarism!**

Instructions

Imagine you are a Java developer for a real estate company where you are building the next generation of online property listing applications. One of your first tasks is to develop a Java class that models the key properties of the houses that will be listed for sale in the application.

The requirements for the house class are defined below.

Requirements
Create a BlueJ project named Assignment1
Create a class named House
Class has a javadoc comment with @author and @version and description
The House class has variables for: • Type must be “mansion” for all, cannot change • Year e.g. 1998 • Size e.g. 3250.5 (in square feet) • Neighborhood e.g. “Point Grey” or “Kerrisdale” • Number Bedrooms e.g. 6 • Number Bathrooms e.g. 5 • View e.g. true or false • Picture Gallery Default: http://www.mansion.com/gallery/
Create a constructor, which takes the following parameters: • Year • Size • Neighborhood • Number Bedrooms • Number Bathrooms • View • Picture Gallery
This constructor has javadoc comments including @param tags for all seven parameters.
This constructor should enforce the following rules for the input parameters: • **Year** must be between 1850 and 2018 (inclusive) ○ Otherwise, reject the Year value and generate the error messages “Sorry, the year 1825 is too old for a mansion.” or “Sorry, the year 2020 is invalid.” respectively.

- **Size** must be greater than or equal to 2500.0 square feet
  - Otherwise, reject the Size value and generate the error message “Sorry, 1516.5 square feet is too small for a mansion.”
- **Neighborhood** cannot be a null value
  - Otherwise, reject the Neighborhood value and generate the error message “The Neighborhood is not valid.”
- **Neighborhood** cannot be an empty string
  - Otherwise, reject the Neighborhood value and generate the error message “Sorry, the Neighborhood must be set.”
- **Number Bedrooms** must be greater than or equal to 3
  - Otherwise, reject the Number of Bedrooms value and generate the error message “Sorry, a mansion should have at least 3 bedrooms.”
- **Number Bathrooms** must be greater than or equal to 2.5
  - Otherwise, reject the Number of Bathrooms value and generate the error message “Sorry, a mansion should have at least 2.5 bathrooms.”
- **Picture Gallery** cannot be an empty string
  - Otherwise, reject the Picture Gallery value and generate the error message “Sorry, the Picture Gallery must be set.”
- **Picture Gallery** cannot be a null value
  - Otherwise, reject the Picture Gallery value and generate the error message “The Picture Gallery is not valid.”

Provide well-named mutator methods for each variable:

- Year
- Size
- Neighborhood
- Number Bedrooms
- Number Bathrooms
- View
- Picture Gallery

Each mutator method must have a javadoc comment with an @param tag

Each mutator method must apply the same validation as defined above for the constructor. In other words, the mutator method must not allow an invalid value to be stored.

Provide well-named accessor methods for each variable:

- Year
- Size
- Neighborhood
- Number Bedrooms
- Number Bathrooms
- View
- Picture Gallery

Each accessor method must have a javadoc comment with an @return tag

Provide a method called *getHouseDetails()* which returns the details of the house exactly as follows when it is called:

> This mansion was built in 1998 with 3578.0 square feet of space, 5 bedrooms and 4.5 bathrooms. It has a spectacular view. You can see pictures of this house at http://www.mansion.com/gallery/
>
> OR

This mansion was built in 2015 with 5500.0 square feet of space, 7 bedrooms and 5 bathrooms. It is situated in a fantastic location. You can see pictures of this house at http://www.mansion.com/gallery/ Notes: • Use your own accessor methods to get the values for printing (i.e. do not use the instance variables directly)
Your code must NOT have magic numbers.

Grading

Category	**Marks**
JavaDoc Comments • Class (1) • Constructor (1) • Mutators (7) • Accessors (7) • Details (1)	17
Class Specifications (Unit Tests)	47
Magic Numbers • Your code must NOT have magic numbers.	-1 each
Total Marks	64

Submission

To submit this assignment, upload the files to your COMP 1409 site on D2L (learn.bcit.ca):

- COMP1409
- Activities
- Assignments
- Assignment 1

For help with BCIT's servers, go to this website: http://helpdesk.bcit.ca/print/fsr/sr/network/734.shtml

Late assignments are NOT accepted.

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