1. Group 01
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1. HW1

5.3) Unchecked exceptions, also called runtime exceptions, are due to a bug in the code and occur during execution of the code. An example is an *ArrayIndexOutOfBoundsException*, which can occur when an element of an array is called that is greater than the size of the array.

5.5) You do not need to declare that your method might throw an *IndexOutOfBoundsException* because it is an unchecked exception and typically caused by programmer error.

5.6) In some cases the type of exception caught could be a super class of the exception that is thrown. For example, an *IOException* in a catch block would catch a *FileNotFoundException*.

6.3) a. You can differentiate between calls to instance methods and calls to static methods in a static method because to use an instance method you would need to create an instance of the class and call the method using that object.

A static method does not need an object of the class to be instantiated in order to be called. It also has the keyword *static* before it in the class definition.

b. It is not as easy to distinguish between calls to instance and static methods which are called from an instance method because they can both be called on the current object.

6.8)

b) This is not syntactically legal because mY is a private instance variable.

c) This is not legal because A is a private constant.

f) This is legal and will get the value of x for the object cObj1, which will be -1 because it uses the default constructor.

h) This is legal and will set cObj2’s x value to the value of cObj1’s x value.

k) This is legal and will get cObj1’s y value, which is 0 because the mY instance variable is declared as 0.

m) This is not legal because an object of the class needs to be created to call an instance method. An instance method cannot be called on the class itself.

7.2) Diagram

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