Thing FRQ

SHOW ALL YOUR WORK. REMEMBER THAT PROGRAM SEGMENTS ARE TO BE WRITTEN IN JAVA.

Assume that the classes listed in the Java Quick Reference have been imported where appropriate.

Unless otherwise noted in the question, assume that parameters in method calls are not *null* and that methods are called only when their preconditions are satisfied.
In writing solutions for each question, you may use any of the accessible methods that are listed in classes defined in that question. Writing significant amounts of code that can be replaced by a call to one of these methods will not receive full credit.

Consider the following *Thing* class. Each *Thing* object has a name attribute, which can be set in the constructor or by using the *setName()* method. The name of a *Thing* object can be returned by the *getName()* method.

```java
public class Thing
{
    // attributes not shown
    /** Constructs a new Thing named myName
     */
    public Thing(String myName)
    { /* implementation not shown */ }

    /** Returns this Thing's name
     */
    public String getName()
    { /* implementation not shown */ }

    /** Sets this Thing's name to newName
     */
    public void setName(String newName)
    { /* implementation not shown */ }

    /** Returns a message as described in part (b)
     */
    public void printMessage()
    { /* implementation not shown */ }
}
```

(a) Write a statement to create a new `Thing` object snack that has the name "`potato chip`".

(b) The `Thing` method `printMessage()` prints a `String` consisting of the name of the object followed by "`_is_great`".

Suppose the name of the `Thing` object `favFood` is "`pizza`". Write a statement that uses the `printMessage()` method to print the string "pizza_is_great".

Write the statement below.

(c) Write a code segment to change the name of the `Thing` object something such that the new name consists of the old name with one character removed at random. For example, if something has name "`ABCD`", its new name could be set to "`ACD`".

Write the code segment below.