

PasswordGenerator 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.

This question involves the implementation of the *PasswordGenerator* class, which generates strings containing initial passwords for online accounts. The *PasswordGenerator* class supports the following functions.

Creating a password consisting of a specified prefix, a period, and a randomly generated numeric portion of specified length.

Creating a password consisting of the default prefix "A", a period, and a randomly generated numeric portion of specified length.

Reporting how many passwords have been generated.

The following table contains a sample code execution sequence and the corresponding results.

Statements	Possible Value Returned (blank if no value returned)	Comment
<code>PasswordGenerator pw1 = new PasswordGenerator(4, "chs");</code>		Passwords generated by the <i>pw1</i> object are composed of the prefix "chs", a period, and 4 randomly-generated digits.
<code>pw1.pwCount();</code>	0	No passwords have been generated yet.
<code>pw1.pwGen();</code>	"chs.3900"	A possible password generated by the <i>pw1</i> object.
<code>pw1.pwGen();</code>	"chs.1132"	Another possible password generated by the <i>pw1</i> object.
<code>pw1.pwCount();</code>	2	Two passwords have been generated. Both contain the prefix "chs" and 4 digits.
<code>PasswordGenerator pw2 = new PasswordGenerator(6);</code>		Passwords generated by the <i>pw2</i> object are composed of the default prefix "A", a period, and 6 randomly generated digits.
<code>pw2.pwCount();</code>	2	Two passwords have been generated. Both contain the prefix "chs" and 4 digits.
<code>pw2.pwGen();</code>	"A.843055"	A possible password generated by the <i>pw2</i> object.
<code>pw2.pwCount();</code>	3	Three passwords have been generated. Two contain the prefix "chs" and 4 digits, and the third contains the default prefix "A" and 6 digits.
<code>pw1.pwCount();</code>	3	Three passwords have been generated. The same value is returned by <i>pwCount</i> for all objects of the <i>PasswordGenerator</i> class.

Write the complete PasswordGenerator class.

Your implementation must meet all specifications and conform to the example.