

Password Generator

A challenge in computer security for users is to create passwords that don't contain words but are easy to remember. One solution is to use a well known phrase such as a song lyric or movie quote and then only use the first n characters from each word.

Example:

Input: $n=2$, words = "May", "the", "Force", "be", "with"

Output: MathFobewi

For this assignment you will create a Java Class named PasswordGenerator.

This class should contain private member variables for 5 phrase words and the n value as well as public methods to access and change the values of these variables. The class should also contain a method called getPassword(), this method should return the password formed by using the first n characters of each word of the phrase instance variable. If a word doesn't have n characters in it then use only the letters it does contain (see the example below with the word "be", where $n=3$). The class should contain a getPhrase() method that returns the entire phrase as a single string of words separated by spaces and a getPasswordLength() method that returns the length of the password generated using the given n value.

The driver (main method) for this class should prompt the user for the 5 phrase words and an initial n value and then create a PasswordGenerator object, populate its data members and then display the results of the getPassword() method along with the passwords length, then modify the n value and display the results after calling getPassword() again along with the passwords length.

Class PasswordGenerator

```
-word1:String  
-word2:String  
-word3:String  
-word4:String  
-word5:String  
-n: int
```

```
+PasswordGenerator(int, String, String, String, String, String)  
+setPhrase(String, String, String, String, String)  
+getPhrase(): String  
+setN(int)  
+getN: int  
+getPassword(): String  
+getPasswordLength(): int
```

Example:

Enter 5 Phrase words: May the Force be with
Enter default n value: 2

Using n : 2,
Password length=10: MathFobewi

Using n : 3
Password length=14: MaytheForbewit