# https://github.com/nando07/Prove\_01

**Test.java**

|  |
| --- |
| package gomez; |
|  |

|  |
| --- |
| import static gomez.NSALoginController.hashUserPassword; |
|  |

|  |
| --- |
| import static gomez.NSALoginController.verifyPassword; |
|  |

|  |
| --- |
| import static gomez.NSALoginController.verifyPasswordLengthAndDigit; |
|  |

|  |
| --- |
| import java.util.Scanner; |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| /\*\* |
|  |

|  |
| --- |
| \* Created by fernandogomez on 4/22/17. |
|  |

|  |
| --- |
| \*/ |
|  |

|  |
| --- |
| public class Test { |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| private static final Scanner \_scanner = new Scanner( System.in ); |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| public static void main(String[] args) throws WeakPasswordException { |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| Test test = new Test(); |
|  |

|  |
| --- |
| Boolean prompt = true; |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| String p = test.promptPassword(); |
|  |

|  |
| --- |
| User newUser = new User(p); |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| // this will prompt the user for a password if it doesn't contain 8 characters and one digit at least. |
|  |

|  |
| --- |
| while (prompt) { |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| prompt = false; |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| try { |
|  |

|  |
| --- |
| verifyPasswordLengthAndDigit(newUser); |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| } catch (WeakPasswordException e) { |
|  |

|  |
| --- |
| System.out.println(e.getMessage() + "\n"); |
|  |

|  |
| --- |
| prompt = true; |
|  |

|  |
| --- |
| p = test.promptPassword(); |
|  |

|  |
| --- |
| newUser.setPassword(p); |
|  |

|  |
| --- |
| } |
|  |

|  |
| --- |
| } |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| System.out.println("\n" + "\*\*\*\* Here are your current credentials \*\*\*\*" + "\n"); |
|  |

|  |
| --- |
| test.displayCredentials(newUser); |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| try { |
|  |

|  |
| --- |
| hashUserPassword(newUser); |
|  |

|  |
| --- |
| System.out.println("\*\*\*\* New Credentials After Creating Hash and Salt \*\*\*\*" + "\n"); |
|  |

|  |
| --- |
| test.displayCredentials(newUser); |
|  |

|  |
| --- |
| } catch (Exception e) { |
|  |

|  |
| --- |
| e.printStackTrace(); |
|  |

|  |
| --- |
| } |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| System.out.println("\*\*\*\* Type your orginal password to test the hash! \*\*\*\*" + "\n"); |
|  |

|  |
| --- |
| String testPassword = test.promptPassword(); |
|  |

|  |
| --- |
| newUser.setPassword(testPassword); |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| try { |
|  |

|  |
| --- |
| if (verifyPassword(newUser)) { |
|  |

|  |
| --- |
| System.out.println("Success! Your password is correct."); |
|  |

|  |
| --- |
| } else { |
|  |

|  |
| --- |
| System.out.println("Sorry! Passwords don't match."); |
|  |

|  |
| --- |
| } |
|  |

|  |
| --- |
| } catch (Exception e) { |
|  |

|  |
| --- |
| e.printStackTrace(); |
|  |

|  |
| --- |
| } |
|  |

|  |
| --- |
| } |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| private String promptPassword() { |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| // Using print() instead of println() here, because we don't |
|  |

|  |
| --- |
| // want an end line. |
|  |

|  |
| --- |
| System.out.print("Enter your Password: "); |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| // Read a string from the console input |
|  |

|  |
| --- |
| String password = \_scanner.nextLine(); |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| return password; |
|  |

|  |
| --- |
| } |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| private void displayCredentials(User newUser) { |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| System.out.println("Password: " + newUser.getPassword() + "\n" + "Salt: " + newUser.getSalt() + "\n" + "Password Hash: " + newUser.getHashedPassword() + "\n"); |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| } |
|  |

|  |
| --- |
|  |
|  |

}

**User.java**

|  |
| --- |
| package gomez; |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| public class User { |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| // Add private member variables to the class to store the password, salt, and hash value. They should all be String variables. |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| private String password; |
|  |

|  |
| --- |
| private String passwordHash; |
|  |

|  |
| --- |
| private String salt; |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| // constructor |
|  |

|  |
| --- |
| public User(String startPassword) { |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| password = startPassword; |
|  |

|  |
| --- |
| passwordHash = "Hash hasn't been created"; |
|  |

|  |
| --- |
| salt = "Salt hasn't been created"; |
|  |

|  |
| --- |
| } |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| // getters |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| public String getPassword() { |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| return password; |
|  |

|  |
| --- |
| } |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| public String getHashedPassword() { |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| return passwordHash; |
|  |

|  |
| --- |
| } |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| public String getSalt() { |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| return salt; |
|  |

|  |
| --- |
| } |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| // setters |
|  |

|  |
| --- |
| public void setPassword(String newValue) { |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| password = newValue; |
|  |

|  |
| --- |
| } |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| public void setHashedPassword(String newValue) { |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| passwordHash = newValue; |
|  |

|  |
| --- |
| } |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| public void setSalt(String newValue) { |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| salt = newValue; |
|  |

|  |
| --- |
| } |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| public static void main(String[] args) { |
|  |

|  |
| --- |
| // write your code here |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| } |
|  |

}

**WeakPasswordException.java**

|  |
| --- |
| package gomez; |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| /\*\* |
|  |

|  |
| --- |
| \* Created by fernandogomez on 4/22/17. |
|  |

|  |
| --- |
| \*/ |
|  |

|  |
| --- |
| public class WeakPasswordException extends Exception { |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| public WeakPasswordException(String message) { |
|  |

|  |
| --- |
| super(message); |
|  |

|  |
| --- |
| } |
|  |

}

**NSALoginController.java**

|  |
| --- |
| public static void verifyPasswordLengthAndDigit(User user) throws WeakPasswordException { |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| String p = user.getPassword(); |
|  |

|  |
| --- |
| int passwordLength = p.length(); |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| if (passwordLength > 7 && p.matches(".\*\\d.\*")) { |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| System.out.println("Good! Your password has 8 characters at least, and it contains a digit."); |
|  |

|  |
| --- |
| } else { |
|  |

|  |
| --- |
| throw new WeakPasswordException("Oh-uh! Your password must be 8 characters long and contain one digit at least."); |
|  |

|  |
| --- |
| } |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| } |
|  |

}