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Assignment 1

Password checker utility design

**comparePasswords(String password, String passwordConfirm)**

if (!password.equals(passwordConfirm)

throw UnmatchedException

**comparePasswordsWithReturn(String password, String passwordConfirm)**

if(password.equals(passwordConfirm)

return true

else

return false

**getInvalidPasswords(ArrayList<String> passwords)**

Declare arraylist of Strings called invalidPasswords

For every password in passwords

Try

If password isValidPassword

Continue

Catch (exception ex)

Add password + ex.getMessage to invalidPasswords

Return invalidPasswords

**hasBetweenSixAndNineChars(String password)**

Return (password.length >= 6 && password.length <= 9);

**hasDigit(String password) throws NoDigitException**

For every char in password

If “0123456789” contains char

Return true

Throw NoDigitException

**hasLowerAlpha(String password) throws NoLowerAlphaException**

For every char in password

If “qwertyuiopasdfghjklzxcvbnm” contains char.toLowerCase

Return true

Throw NoLowerAlphaException

**hasSameCharInSequence(String password) throws InvalidSequenceException**

For i = 0; i < password length minus 2; i++

If charAt(i) equals charAt(i + 1)

If this char equals charAt(i +2)

Throw InvalidSequenceException

Else

continue

Else

Continue

Return true

**hasSpecialChar(String password) throws NoSpecialCharacterException**

For every char in password

If “!@#$%^&\*()\_+[]{}\|”’:;?/>.<,`~” contains char

Return true

Throw NoSpecialCharacterException

**hasUpperAlpha(String password) throws NoUpperAlphaException**

For every char in password

If “QWERTYUIOPASDFGHJKLZXCVBNM” contains char

Return true

Throw NoUpperAlphaException

**isValidLength(String password)** **throws LengthExcpetion**

If password.length() >= 6

Return true

Return false

**isWeakPassword(String password) throws WeakPasswordException**

If password isValidPassword and password hasBetweenSixAndNineChars

Throw WeakPasswordException

Return false

**isValidPassword(String password) throws LengthException, NoUpperAlphaException, NoLowerAlphaException, NoDigitException, NoSpecialCharacterException, InvalidSequenceException**

If password isValidLength

If password hasUpperAlpha

If password hasLowerAlpha

If password hasDigit

If password hasSpecialChar

If password hasSameCharInSequence

Return true

|  |  |  |
| --- | --- | --- |
| Test Case | Input | Expected Output |
| 1 | Schoo!1sHard | Valid Password |
| 2 | bologna!3 | No Uppercase Alpha |
| 3 | BOLOGNA!3 | No Lowercase Alpha |
| 4 | Bologna! | No Digit |
| 5 | Bologna3 | No special character |
| 6 | Booologna!3 | Invalid Subsequence |
| 7 | Bologna!3 | Valid but weak |