Regular Expression Assignment

Python Features Required: Regular Expressions

File(s) to Submit: regex.py

Specification Download the file regex.py, which contains two custom exceptions (`BadPasswordCharacter` and `InvalidFractionExpression`); and incomplete definitions for the three functions below. You are to fill in the code for these functions.

1. `strong_pwd(pwd_string)`
Uses regular expressions to make sure a password string is strong. The password may only contain uppercase and lowercase characters and digits. It should raise a `BadPasswordCharacter` exception is this is not true.

A strong password is defined as one that is at least eight characters long, contains both uppercase and lowercase characters, and has at least one digit. You may need to test the string against multiple regex patterns to validate its strength.

2. `clear_whitespace(s)` Returns the string s with all whitespace characters removed. Use the `re.sub` method.

3. `extract_from_equation(s)`
The string `s` is supposed to represent a sum, difference, product or quotient of two fractions. While the string represents an expression connecting two fractions by an operator symbol (+,-,*,/), the string may have whitespace anywhere in the string (except within the strings representing integers). Use the previous function to clear out all whitespace. Then try to use a regular expression to extract and return five substrings representing: the first fraction's numerator, the first fraction's denominator, the operator, the second fraction's numerator, and the second fraction's denominator.

You should raise a `InvalidFractionExpression` if the string does not represent an expression as described above.