**Assignment**

**CSA0814– Python Programming**

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**Title:**

Password strength checker

**Problem Statement:**

You are required to implement a function that checks the strength of a given password based on specific criteria. The function should evaluate whether the password meets certain strength requirements and return a corresponding result.

**Requirements**

1. **Length**: The password must be at least 8 characters long.

2. **Uppercase Letter**: The password must contain at least one uppercase letter (A-Z).

3. **Lowercase Letter**: The password must contain at least one lowercase letter (a-z).

4. **Digit**: The password must contain at least one numeric digit (0-9).

5. **Special Character**: The password must contain at least one special character from the following set: !@#$%^&\*(),.?":{}|<>

**Code:**

def check\_password\_strength(password):

if len(password) < 8:

return "Weak: Password must be at least 8 characters long."

if not re.search("[a-z]", password):

return "Weak: Password must contain at least one lowercase letter."

if not re.search("[A-Z]", password):

return "Weak: Password must contain at least one uppercase letter."

if not re.search("[0-9]", password):

return "Weak: Password must contain at least one digit."

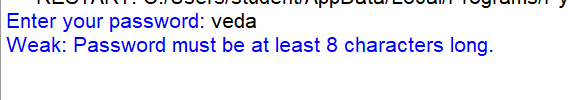
if not re.search("[@#$%^&+=]", password):

return "Weak: Password must contain at least one special character."

return "Strong: Password meets all criteria."

password = input("Enter your password: ")

print(check\_password\_strength(password))

**Output Screen Shots:**

**Conclusion:**

**The check\_password\_strength function is designed to evaluate the strength of a given password based on well-defined criteria. By leveraging regular expressions and simple conditional checks, the function ensures that the password meets the following requirements:**

**1.** **Minimum Length: The password must be at least 8 characters long, providing a basic level of complexity.**

**2.** **Character Diversity: The password must include:**

**o At least one uppercase letter to introduce a case variation.**

**o At least one lowercase letter to ensure diversity.**

**o At least one numeric digit to add complexity.**

**o At least one special character from a predefined set to include symbols and punctuation.**