

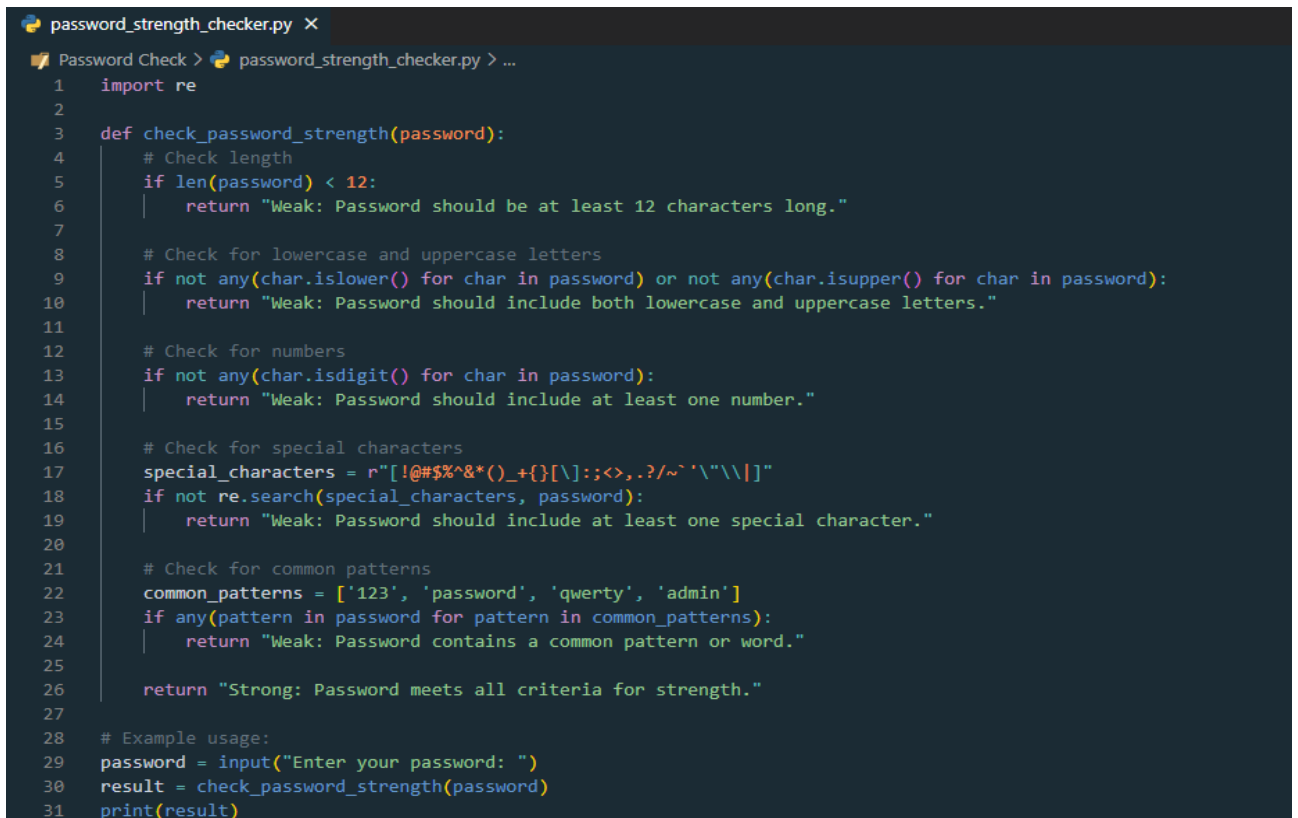
Password Strength Checker

This tool designed to assess the strength of user passwords. It evaluates passwords based on several criteria to ensure robust security practices. **The key criteria include:**

Length	Checks if the password is at least 12 characters long, promoting the use of longer, more secure passwords.
Complexity	Verifies the presence of a mix of uppercase and lowercase letters, numbers, and special characters , enhancing password complexity and resistance to brute-force attacks.
Avoidance of Common Patterns	Identifies and discourages the use of common patterns , phrases, or easily guessable information, minimizing the risk of predictable passwords.
No Personal Information	Ensures that users do not include personal information , such as names or birthdays, in their passwords to enhance overall security.
Lowercase and Uppercase Check	Requires the inclusion of both lowercase and uppercase letters for a balanced and robust password structure.
Usage of Special Symbols	Mandates the use of at least one special character to add an extra layer of complexity to the password.

Upon user input, the Password Strength Checker provides immediate feedback, categorizing the password as **"Weak"** or **"Strong"** based on these criteria. This tool serves as a user-friendly guide, promoting the creation of strong and secure passwords, thereby improving the overall security posture of accounts and systems.

I am using Visual Studio in projects. Here are some screenshots



```
password_strength_checker.py X
Password Check > password_strength_checker.py > ...
1  import re
2
3  def check_password_strength(password):
4      # Check length
5      if len(password) < 12:
6          return "Weak: Password should be at least 12 characters long."
7
8      # Check for lowercase and uppercase letters
9      if not any(char.islower() for char in password) or not any(char.isupper() for char in password):
10         return "Weak: Password should include both lowercase and uppercase letters."
11
12     # Check for numbers
13     if not any(char.isdigit() for char in password):
14         return "Weak: Password should include at least one number."
15
16     # Check for special characters
17     special_characters = r"[!@#$%^&*()_+{}[\];<>.,?/~`'\\"
18     if not re.search(special_characters, password):
19         return "Weak: Password should include at least one special character."
20
21     # Check for common patterns
22     common_patterns = ['123', 'password', 'qwerty', 'admin']
23     if any(pattern in password for pattern in common_patterns):
24         return "Weak: Password contains a common pattern or word."
25
26     return "Strong: Password meets all criteria for strength."
27
28 # Example usage:
29 password = input("Enter your password: ")
30 result = check_password_strength(password)
31 print(result)
```

Let's run the Python script by entering the following command in the terminal:

```
PS C:\Users\admin\Desktop\Projects Code\Password Check> python password_strength_checker.py
```

Next, in order to verify that all of our criterias are being met, we can try several passwords here:

Password check 1

```
PS C:\Users\admin\Desktop\Projects Code\Password Check> python password_strength_checker.py
Enter your password: mnbvvcx
Weak: Password should be at least 12 characters long.
```

Password check 2

```
PS C:\Users\admin\Desktop\Projects Code\Password Check> python password_strength_checker.py
Enter your password: mnbvcxzlkhgfdsapuytr
Weak: Password should include both lowercase and uppercase letters.
```

Password check 3

```
PS C:\Users\admin\Desktop\Projects Code\Password Check> python password_strength_checker.py
Enter your password: Mnbvcxzlkhgfdsoiuytr
Weak: Password should include at least one number.
```

Password check 4

```
PS C:\Users\admin\Desktop\Projects Code\Password Check> python password_strength_checker.py
Enter your password: 1Mnbvcxzlkhgfdspiuytre
Weak: Password should include at least one special character.
```

Password check 5

```
PS C:\Users\admin\Desktop\Projects Code\Password Check> python password_strength_checker.py
Enter your password: password1Mnbvc@ertyuio
Weak: Password contains a common pattern or word.
```

Password check 6

```
PS C:\Users\admin\Desktop\Projects Code\Password Check> python password_strength_checker.py
Enter your password: 1@Mnbvcxzlkhgfdsiuytre
Strong: Password meets all criteria for strength.
```

Success! Strong password is created ☺