

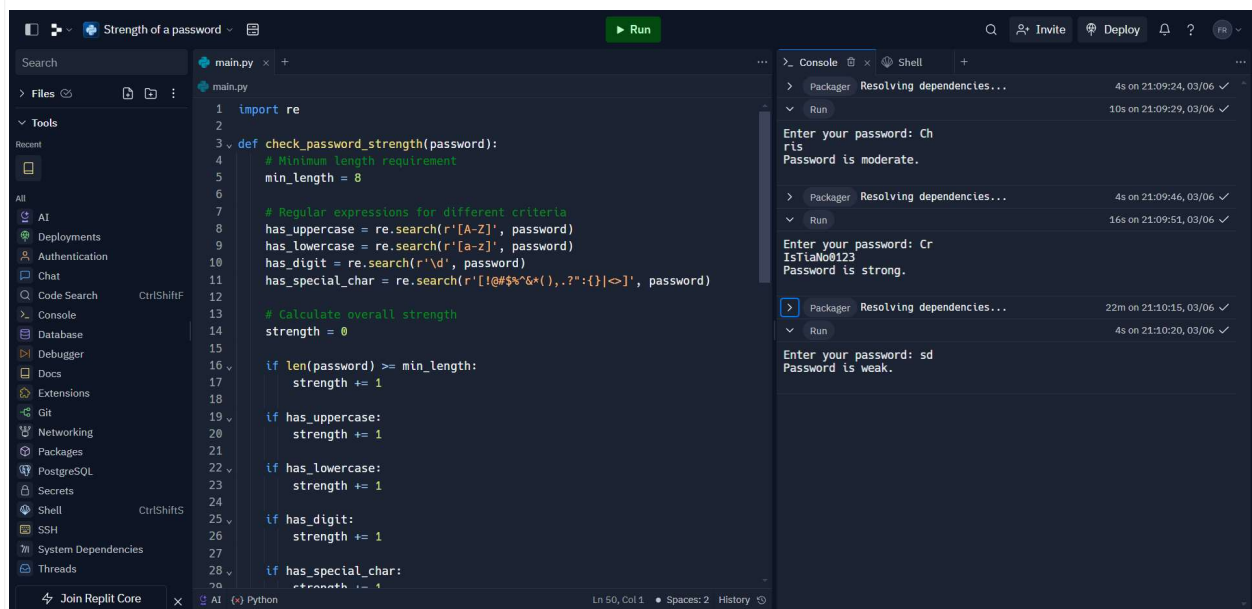
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Report on Password Strength Assessment Tool

Objective: The objective of this project was to develop a simple Python tool that assesses the strength of a password based on criteria such as length, presence of uppercase and lowercase letters, numbers, and special characters. The tool is designed to provide users with feedback on the strength of their passwords.

Implementation: The tool was implemented as a Python script that defines a function, `check_password_strength`, which evaluates the password against specific criteria. The criteria include minimum length, the presence of uppercase and lowercase letters, digits, and special characters. The tool calculates an overall strength score based on these criteria.

The `main` function interacts with the user by prompting them to enter a password. The entered password is then evaluated using the `check_password_strength` function, and the tool provides feedback on the password's strength.



The screenshot displays a Replit IDE environment. The left sidebar shows the file explorer with 'main.py' selected. The main editor area contains the following Python code:

```
1 import re
2
3 def check_password_strength(password):
4     # Minimum length requirement
5     min_length = 8
6
7     # Regular expressions for different criteria
8     has_uppercase = re.search(r'[A-Z]', password)
9     has_lowercase = re.search(r'[a-z]', password)
10    has_digit = re.search(r'\d', password)
11    has_special_char = re.search(r'[@$%&*()!.,?":{}|<>]', password)
12
13    # Calculate overall strength
14    strength = 0
15
16    if len(password) >= min_length:
17        strength += 1
18
19    if has_uppercase:
20        strength += 1
21
22    if has_lowercase:
23        strength += 1
24
25    if has_digit:
26        strength += 1
27
28    if has_special_char:
29        strength += 1
30
```

The right sidebar shows the console output, which includes the results of three password evaluations:

```
> Enter your password: Ch
rfs
Password is moderate.

> Enter your password: Cr
Is1aNo0123
Password is strong.

> Enter your password: sd
Password is weak.
```

Usage: To use the tool, the user runs the Python script. Upon execution, the script prompts the user to input a password. The tool then assesses the strength of the password based on predefined criteria and provides feedback to the user.

Feedback Categories: The tool categorizes password strength into the following levels:

- Very Weak

- Weak
- Moderate
- Strong
- Very Strong

Each category is determined by the number of criteria met by the password.

Conclusion: The developed password strength assessment tool provides a quick and easy way for users to evaluate the robustness of their passwords. It offers a straightforward feedback mechanism that can guide users in choosing stronger passwords by considering length, character types, and complexity.

Future Enhancements: Future enhancements to the tool could include additional criteria for assessing password strength, such as checking for common patterns or sequences. Moreover, the tool's interface could be improved to make it more user-friendly.

Overall, the completed task aligns with the goal of creating a practical and efficient tool for password strength assessment.

Note: The tool assumes a basic level of password strength assessment and is not intended for cryptographic purposes. Users are encouraged to follow best practices for secure password creation.