

password_checker.py

```
1 import re
2
3 def check_password_strength(password):
4     length_error = len(password) < 8
5     uppercase_error = not re.search(r"[A-Z]", password)
6     lowercase_error = not re.search(r"[a-z]", password)
7     digit_error = not re.search(r"\d", password)
8     special_char_error = not re.search(r"[@#$%^&*(),.?\":{}|<>]", password)
9
10    # Calculate strength level
11    errors = [length_error, uppercase_error, lowercase_error, digit_error, special_char_error]
12    score = 5 - sum(errors)
13
14    if score == 5:
15        strength = "Strong"
16    elif 3 <= score < 5:
17        strength = "Moderate"
18    else:
19        strength = "Weak"
20
21    return {
22        "strength": strength,
23        "errors": [
24            "Length >= 8": not length_error,
25            "Uppercase letter": not uppercase_error,
26            "Lowercase letter": not lowercase_error,
27            "Number": not digit_error,
28            "Special character": not special_char_error,
29        ]
30    }
31
32 def main():
33     print("==== Password Complexity Checker ===")
34     password = input("Enter your password to check: ")
35
36     result = check_password_strength(password)
37     print("\n🔍 Password Strength:", result["strength"])
38     print("👉 Detailed Check:")
39     for rule, passed in result["errors"].items():
40         status = "✅ Passed" if passed else "❌ Missing"
41         print(f"- {rule}: {status}")
42
43 if __name__ == "__main__":
44     main()
```