

LAB RECORD

Password Strength Testing using Python

Write a Python program that accepts a password from the user and checks whether it is weak, medium, or strong based on the following rules:

- Minimum 8 characters
- Must contain at least one digit
- Must contain at least one uppercase letter
- Must contain at least one lowercase letter
- Must contain at least one special character

Program: (File name: password_checker.py)

```
import re

def check_password_strength(password):
    if len(password) < 8:
        return "Weak: Password must be at least 8 characters long."
    if not any(char.isdigit() for char in password):
        return "Weak: Password must include at least one number."
    if not any(char.isupper() for char in password):
        return "Weak: Password must include at least one uppercase letter."
    if not any(char.islower() for char in password):
        return "Weak: Password must include at least one lowercase letter."
    if not re.search(r'[@#$%^&*(),.?":{}|<>]', password):
```

```

        return "Medium: Add special characters to make your password stronger."
    else:
        return "Strong: Your password is secure!"

def password_checker():
    print("Welcome to the Password Strength Checker!")

    while True:
        password = input("\nEnter your password (or type 'exit' to quit): ")

        if password.lower() == "exit":
            print("Thank you for using the Password Strength Checker! Goodbye!")
            break

        result = check_password_strength(password)
        print(result)

    if __name__ == "__main__":
        password_checker()

```

Execution Steps:-

1. Open Command Prompt or VS Code Terminal.
2. Navigate to the folder where password_checker.py is saved
3. Run the program: python password_checker.py

The program will display:

Welcome to the Password Strength Checker!

Enter your password (or type 'exit' to quit):

4. Type a password and press Enter.
5. The program will display whether the password is:
 - Weak
 - Medium
 - Strong
6. To stop the program, type: exit

Sample Input & Output:

Input:

Enter your password: abc123

Output:

Weak: Password must be at least 8 characters long.

Input:

Enter your password: Abcdef12

Output:

Medium: Add special characters to make your password stronger.

Input:

Enter your password: Abc@1234

Output:

Strong: Your password is secure!