Title: Password Strength Analyzer & Custom Wordlist Generator

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Course: Elevate Labs Cyber Security Internship

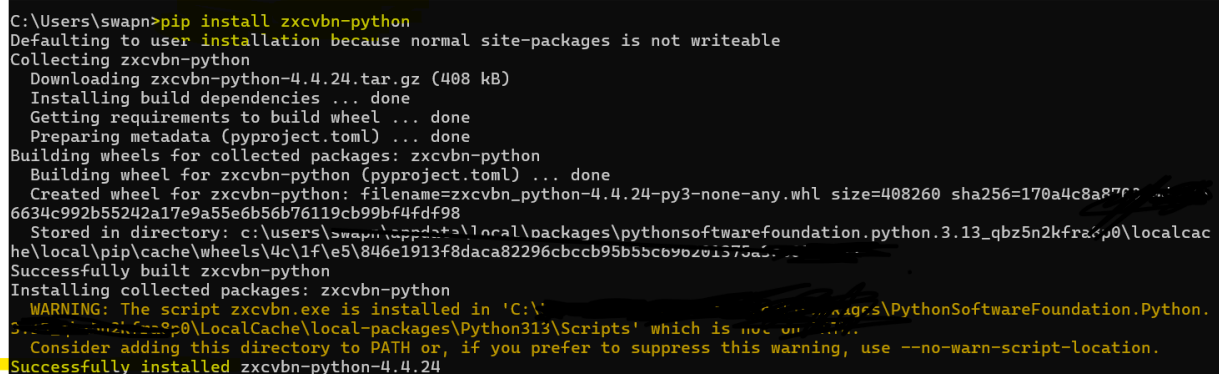**Date:** 25-10-2025

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Attached Screenshots

1. **Environment setup** — Install Python and, install zxcvbn-python

   o PIP install zxcvbn-python

2. **Command-line interface** — Two primary modes: --check <password> (analyze) and --gen (generate wordlist). Example usage:

python pwd_analyzer.py --check "P@ssw0rd123"

```
C:\Users\swapn>python pwd_analyzer.py --check 'P@ssw0rd123'
python: can't open file 'C:\\Users\\swapn\\pwd_analyzer.py': [Errno 2] No such file or directory

C:\Users\swapn>python pwd_analyzer.py --check 'P@ssw0rd123'

Password: 'P@ssw0rd123'
Score (0-4): 3
Traceback (most recent call last):
  File "C:\Users\swapn\pwd_analyzer.py", line 101, in <module>
    main()
    ~~~~^^
  File "C:\Users\swapn\pwd_analyzer.py", line 90, in main
    print_analysis(a)
    ~~~~~~~~~~~~~~~^^^
  File "C:\Users\swapn\pwd_analyzer.py", line 35, in print_analysis
    print(f"Estimated entropy: {a['entropy']:.2f} bits")
                                ^^^^^^^^^^^^^^^^^^^
TypeError: unsupported format string passed to NoneType.__format__

C:\Users\swapn>

C:\Users\swapn>python pwd_analyzer.py --check "P@ssw0rd123"

Password: P@ssw0rd123
Score (0-4): 1
Estimated entropy: 0.00 bits
Estimated crack time (display): 2 seconds
Warning: This is similar to a commonly used password.
Suggestions:
 - Add another word or two. Uncommon words are better.
 - Capitalization doesn't help very much.
 - Predictable substitutions like '@' instead of 'a' don't help very much.
```

```
C:\Users\swapn>python pwd_analyzer.py --check "Zxn2@@#&aui1"

Password: Zxn2@@#&aui1
Score (0-4): 4
Estimated entropy: 0.00 bits
Estimated crack time (display): 3 years

C:\Users\swapn>python pwd_analyzer.py --check "Swap@redch1"

Password: Swap@redch1
Score (0-4): 4
Estimated entropy: 0.00 bits
Estimated crack time (display): 1 month
```

python pwd_analyzer.py --gen --name Swapnil --pet Fluffy --years 1990,1998 --out swapnil_wordlist.txt

```
C:\Users\swapn>python pwd_analyzer.py --gen --name Swapnil --pet Fluffy --years 1990,1998 --out swapnil_wordlist.txt

Generated wordlist: swapnil_wordlist.txt (2000 items)

C:\Users\swapn>
```