

**Title:** Password Strength Analyzer & Custom Wordlist Generator

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**Course:** Elevate Labs Cyber Security Internship

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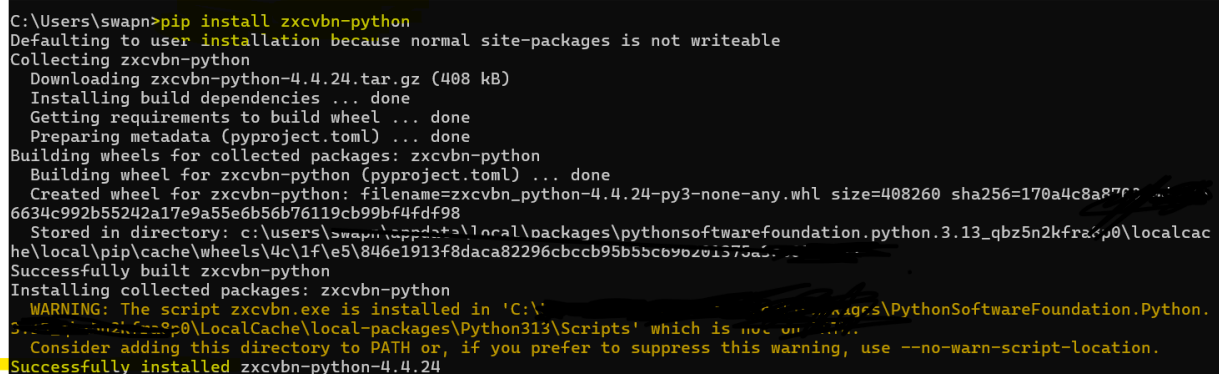
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## Attached Screenshots

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

- PIP install zxcvbn-python



```
C:\Users\swapn>pip install zxcvbn-python
Defaulting to user installation because normal site-packages is not writeable
Collecting zxcvbn-python
  Downloading zxcvbn-python-4.4.24.tar.gz (408 kB)
  Installing build dependencies ... done
  Getting requirements to build wheel ... done
  Preparing metadata (pyproject.toml) ... done
Building wheels for collected packages: zxcvbn-python
  Building wheel for zxcvbn-python (pyproject.toml) ... done
  Created wheel for zxcvbn-python: filename=zxcvbn_python-4.4.24-py3-none-any.whl size=408260 sha256=170a4c8a87f066634c992b55242a17e9a55e6b56b76119cb99bf4fd98
  Stored in directory: c:\users\swapn\appdata\local\packages\pythonsoftwarefoundation.python.3.13_qbz5n2kfra4p0\localcac
he\local\pip\cache\wheels\4c\1f\e5\846e1913f8daca82296cbccb95b5bcb9b0261575a2...
Successfully built zxcvbn-python
Installing collected packages: zxcvbn-python
  WARNING: The script zxcvbn.exe is installed in 'C:\Users\swapn\AppData\Local\packages\PythonSoftwareFoundation.Python.3.13_qbz5n2kfra4p0\LocalCache\local-packages\Python313\Scripts' which is not on the PATH.
  Consider adding this directory to PATH or, if you prefer to suppress this warning, use --no-warn-script-location.
Successfully installed zxcvbn-python-4.4.24
```

### 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@@#&au1"

Password: Zxn2@@#&au1
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>

```