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CYBER SECURITY INTERNSHIP TASK 2

Password Strength Checker: Create a Python script that assesses the strength of passwords entered by users. You can use regular expressions to check for length, complexity, and the presence of special characters.

Answer

Installing python in kali linux :

```
(kali@kali)-[~]
└─$ sudo apt-get install python3
[sudo] password for kali:
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following packages were automatically installed and are no longer required:
debugedit finger gvmd-common libbytes-random-secure-perl libcrypt-random-seed-perl libdlt2 libfcgi-bin libfile-listing-perl
libfont-afm-perl libfsvrity0 libgvm22 libhiredis0.14 libhtml-form-perl libhtml-format-perl libhtml-tree-perl libhttp-cookiejar-perl
libhttp-cookies-perl libhttp-daemon-perl libhttp-negotiate-perl libio-multiplex-perl libipc-shareable-perl libmath-random-isaac-perl
libmath-random-isaac-xs-perl libmosquitto1 libnet-cidr-perl libnet-http-perl libnet-ip-perl libnet-netmask-perl libnet-whois-ip-perl
libnsl-dev libpaho-mqtt1.3 libpod-parser-perl libradcli4 libregexp-assemble-perl librpmbuild9 librpmsign9 libstring-crc32-perl
libstring-random-perl libtie-ixhash-perl libtirpc-dev libtiny-perl libwww-robotrules-perl libxml-regexp-perl libxml-writer-perl
libxml-xpathengine-perl medusa mosquito notus-scanner nsis nsis-common numba-doc openvas-scanner ospd-openvas perl-openssl-defaults
pg-gvm python-odf-doc python-odf-tools python-tables-data python3-aioredis python3-apscheduler python3-bottleneck python3-defusedxml
python3-git python3-gitdb python3-gnupg python3-llvmlite python3-numba python3-numexpr python3-odf python3-paho-mqtt python3-pandas
python3-pandas-lib python3-psutil python3-pyexploitdb python3-pyfiglet python3-pyshodan python3-quamash python3-smmap python3-tables
python3-tables-lib python3-tld python3-yaswfp python3-zapv2 rpm rwho rhod sparta-scripts wapiti xsltproc
Use 'sudo apt autoremove' to remove them.
The following additional packages will be installed:
libexpat1 libexpat1-dev libjs-sphinxdoc libpython3-all-dev libpython3-dev libpython3-stdlib libpython3.11-dev libpython3.11-minimal
libpython3.11-stdlib libpython3.11t64 libpython3.12-dev libpython3.12-minimal libpython3.12-stdlib libpython3.12t64 libreadline8t64
libssl3t64 openssh-client openssh-server openssh-sftp-server openssl python3-all python3-all-dev python3-dev python3-distutils
python3-lib2to3 python3-minimal python3-tk python3.11 python3.11-dev python3.11-minimal python3.12 python3.12-dev python3.12-minimal
readline-common zstd
Suggested packages:
keychain libpam-ssh monkeysphere ssh-askpass molly-guard ufw python3-doc python3-venv tix python3-tk-dbg python3.11-venv python3.11-doc
binfmt-support python3.12-venv python3.12-doc readline-doc
The following packages will be REMOVED:
libpython3.11 libreadline8 libssl3
The following NEW packages will be installed:
```

Updating and resolving issues:

```
(kali@kali)-[~]
└─$ sudo apt-get update --fix-missing
Ign:1 https://download.docker.com/linux/debian bookworm InRelease
Ign:2 https://dl.google.com/linux/chrome/deb stable InRelease
Ign:3 http://http.kali.org/kali kali-rolling InRelease
Ign:3 http://http.kali.org/kali kali-rolling InRelease
Ign:2 https://dl.google.com/linux/chrome/deb stable InRelease
Ign:1 https://download.docker.com/linux/debian bookworm InRelease
Ign:2 https://dl.google.com/linux/chrome/deb stable InRelease
Ign:3 http://http.kali.org/kali kali-rolling InRelease
Ign:1 https://download.docker.com/linux/debian bookworm InRelease
Err:1 https://download.docker.com/linux/debian bookworm InRelease
Temporary failure resolving 'download.docker.com'
Err:2 https://dl.google.com/linux/chrome/deb stable InRelease
Temporary failure resolving 'dl.google.com'
Err:3 http://http.kali.org/kali kali-rolling InRelease
Temporary failure resolving 'http.kali.org'
Reading package lists... Done
```

Checking the python version:

```
(kali@kali)-[~]
$ python3 --version

Python 3.11.2
(kali@kali)-[~]
$
```

Creating python file by nano command

File name is password_strength_check.py and then ls command shows the file

```
(kali@kali)-[~]
$ nano password_strength_check.py

(kali@kali)-[~]
$ ls
Desktop Documents Downloads Music password_strength_check.py Pictures Public Templates Videos
```

coding in python for validations after that save the file and then run the python file to check password

```
GNU nano 7.2 password_strength_check.py
import re

def check_password_strength(password):
    # Initialize the strength score and feedback list
    strength_score = 0
    feedback = []

    # Check for length (at least 8 characters)
    if len(password) >= 8:
        strength_score += 1
    else:
        feedback.append("Password should be at least 8 characters long.")

    # Check for lowercase letters
    if re.search(r'[a-z]', password):
        strength_score += 1
    else:
        feedback.append("Password should include at least one lowercase letter.")

    # Check for uppercase letters
    if re.search(r'[A-Z]', password):
        strength_score += 1
    else:
        feedback.append("Password should include at least one uppercase letter.")

    # Check for digits
    if re.search(r'[0-9]', password):
        strength_score += 1

    return strength_score, feedback

# Example usage
password = "WeakPass123"
score, feedback = check_password_strength(password)
print(f"Password Strength Score: {score}")
for message in feedback:
    print(message)
```

After that executing the file: and checks the password is weak

```
(kali@kali)-[~]  
$ python3 password_strength_check.py  
  
Enter a password to check its strength: abc123  
  
Password Strength: Weak  
- Password should be at least 8 characters long.  
- Password should include at least one uppercase letter.  
- Password should include at least one special character.  
- Password is Weak.
```

Now password is medium:

```
(kali@kali)-[~]  
$ python3 password_strength_check.py  
  
Enter a password to check its strength: u792q7@  
  
Password Strength: Medium  
- Password should be at least 8 characters long.  
- Password should include at least one uppercase letter.  
- Password is Medium.  
Enter a password to check its strength: 
```

Now password is strong:

```
(kali@kali)-[~]  
$ python3 password_strength_check.py  
  
Enter a password to check its strength: Mohsin234@4%  
  
Password Strength: Strong  
- Password is Strong.
```
