

4 PYTHON LAB

1. Write a Python program to reverse the content of the string.

Do not use built in

```
(kali@kali)-[~/nithesh]
$ gedit reverse.py /kali/nithesh

(gedit:111468): GVFS-RemoteVolumeMonitor-WARNING **: 04:23:08.967: remote volume monitor with dbus name org.gtk.vfs.UDisks2VolumeMonitor is not supported

(gedit:111468): tepl-WARNING **: 04:23:09.406: Style scheme 'Kali-Dark' cannot be found, falling back to 'Kali-Dark' default style scheme.

(gedit:111468): tepl-WARNING **: 04:23:09.409: Default style scheme 'Kali-Dark' cannot be found, check your installation.

(gedit:111468): Gtk-WARNING **: 04:23:16.429: Calling org.xfce.Session.Manager.Inhibit failed: GDBus.Error:org.freedesktop.DBus.Error.UnknownMethod: No such method "Inhibit"

(kali@kali)-[~/nithesh]
$ python reverse.py /kali/nithesh
olleH
```

2. Create a program that performs basic string compression using the counts of repeated characters. For example, the string “aabcccccaaa” would become “a2b1c5a3”.

```
(kali@kali)-[~/nithesh]
$ gedit compression.py /kali/nithesh

(gedit:112454): GVFS-RemoteVolumeMonitor-WARNING **: 04:25:07.882: remote volume monitor with dbus name org.gtk.vfs.UDisks2VolumeMonitor is not supported

(gedit:112454): tepl-WARNING **: 04:25:08.074: Style scheme 'Kali-Dark' cannot be found, falling back to 'Kali-Dark' default style scheme.

(gedit:112454): tepl-WARNING **: 04:25:08.074: Default style scheme 'Kali-Dark' cannot be found, check your installation.

(gedit:112454): Gtk-WARNING **: 04:25:18.087: Calling org.xfce.Session.Manager.Inhibit failed: GDBus.Error:org.freedesktop.DBus.Error.UnknownMethod: No such method "Inhibit"

(kali@kali)-[~/nithesh]
$ python compression.py /kali/nithesh
a2b1c5a3
```

3. Get the Caesar cipher from the user Decrypt the cipher

```
(kali@kali)-[~/nithesh]
$ vi caesercypher.py /kali/nithesh

(kali@kali)-[~/nithesh]
$ python caesercypher.py /kali/nithesh
There is a secret message
```

4. Get the cipher encrypted using shift cipher. Identify the key used to encrypt using brute force

ie all the values in the key space

```
(kali@kali)-[~/nithesh]
$ vi brute.py

(kali@kali)-[~/nithesh]
$ python brute.py
Ciphertext: KHOOR ZRUOG /kali/nithesh

Brute force decryption attempts:
Key 0: KHOOR ZRUOG /kali/nithesh
Key 1: JGNNQ YQTNF /kali/nithesh
Key 2: IFMMP XPSME /kali/nithesh
Key 3: HELLO WORLD /kali/nithesh
Key 4: GDKKN VNQKC /kali/nithesh
Key 5: FCJJM UMPJB /kali/nithesh
Key 6: EBIIIL TLOIA /kali/nithesh
Key 7: DAHHK SKNHZ /kali/nithesh
Key 8: CZGGJ RJMGY /kali/nithesh
Key 9: BYFFI QILFX /kali/nithesh
Key 10: AXEEH PHKEW /kali/nithesh
Key 11: ZWDDG OGJDV /kali/nithesh
Key 12: YVCCF NFICU /kali/nithesh
Key 13: XUBBE MEHBT /kali/nithesh
Key 14: WTAAD LDGAS /kali/nithesh
Key 15: VSZZC KCFZR /kali/nithesh
Key 16: URYYB JBEYQ /kali/nithesh
Key 17: TQXXA IADXP /kali/nithesh
Key 18: SPWWZ HZCWO /kali/nithesh
Key 19: ROVVY GYBVN /kali/nithesh
Key 20: QNUUX FXAUM /kali/nithesh
Key 21: PMTTW EWZTL /kali/nithesh
Key 22: OLSSV DVYSK /kali/nithesh
Key 23: NKRRU CUXRJ /kali/nithesh
Key 24: MJQQT BTWQI /kali/nithesh
Key 25: LIPPS ASVPH /kali/nithesh
```

4 PYTHON LAB

5. Find the k value , Provided cipher text and plain text

```
(kali@kali)~/nithesh
$ gedit cipher.py
(gedit:122716): GVFS-RemoteVolumeMonitor-WARNING **: 04:47:39.954: remote volume monitor with dbus name org.gtk.vfs.UDisks2VolumeMonitor is not supported
(gedit:122716): tepl-WARNING **: 04:47:40.290: Style scheme 'Kali-Dark' cannot be found, falling back to 'Kali-Dark' default style scheme.
(gedit:122716): tepl-WARNING **: 04:47:40.290: Default style scheme 'Kali-Dark' cannot be found, check your installation.
(gedit:122716): Gtk-WARNING **: 04:47:47.151: Calling org.xfce.Session.Manager.Inhibit failed: GDBus.Error:org.freedesktop.DBus.Error.UnknownMethod: No such method "Inhibit"

(kali@kali)~/nithesh
$ python cipher.py
Encrypted: KHOOR ZRUOG

Brute force decryption: kali/nithesh
Key 0: KHOOR ZRUOG
Key 1: JGNNQ YQTNF
Key 2: IFMMP XPSME
Key 3: HELLO WORLD
Key 4: GDKKN VNQKC
Key 5: FCJDM UMPJB
Key 6: EBILL TLOIA
Key 7: DAHHK SKNHZ
Key 8: CZGGJ RJMGY
Key 9: BYFFI QILEX
Key 10: AXEEH PHKEW
Key 11: ZWDDG OGJDV
Key 12: YVCCF NFICU
Key 13: XUBBE MEHBT
Key 14: WTAAD LDGAS
Key 15: VSZCC KCFZR
Key 16: URYYB JBEYQ
Key 17: TQXXA IADXP
Key 18: SPWWZ HZCWO
Key 19: ROVVY GYBVM
Key 20: QNUUX FXAUM
Key 21: PMTTW EWZTL
Key 22: OLSSV DVYSK
Key 23: NKRRU CUXRJ
Key 24: MJQQT BTWQI
Key 25: LIPPS ASVPH
Found key: 3
```

6. Encrypt and decrypt the string using Atbash cipher

```
(kali@kali)~/nithesh
$ vi atbash.py

(kali@kali)~/nithesh/nithesh
$ python atbash.py
Plaintext: HELLO WORLD
Encrypted: SV00L DLIOW
Decrypted: HELLO WORLD
```

7. Encrypt and decrypt using Affine cipher

add validation

```
(kali@kali)~
$ cd nithesh

(kali@kali)~/nithesh
$ vi affine.py

(kali@kali)~/nithesh
$ python affine.py
Plaintext: HELLO WORLD
Encrypted: RCLLA OAPLX
Decrypted: HELLO WORLD
```