

Esercizio S3_L4_Bonus

Durante il follow delle slides per il setup della libreria Cryptography, ho notato la presenza di un errore nel comando per eseguirne l'installazione; come si può notare dall'errore emesso da bash, il comando corretto per avviare l'installazione è *apt install python3-* seguito dal nome della libreria: *apt install python3-cryptography*.

```
(kali㉿kali)-[~]
$ pip3 install cryptography
error: externally-managed-environment

x This environment is externally managed
  ↳ To install Python packages system-wide, try apt install
    python3-xyz, where xyz is the package you are trying to
    install.

    If you wish to install a non-Kali-packaged Python package,
    create a virtual environment using python3 -m venv path/to/venv.
    Then use path/to/venv/bin/python and path/to/venv/bin/pip. Make
    sure you have pypy3-venv installed.

    If you wish to install a non-Kali-packaged Python application,
    it may be easiest to use pipx install xyz, which will manage a
    virtual environment for you. Make sure you have pipx installed.

    For more information, refer to the following:
    * https://www.kali.org/docs/general-use/python3-external-packages/
    * /usr/share/doc/python3.13/README.venv

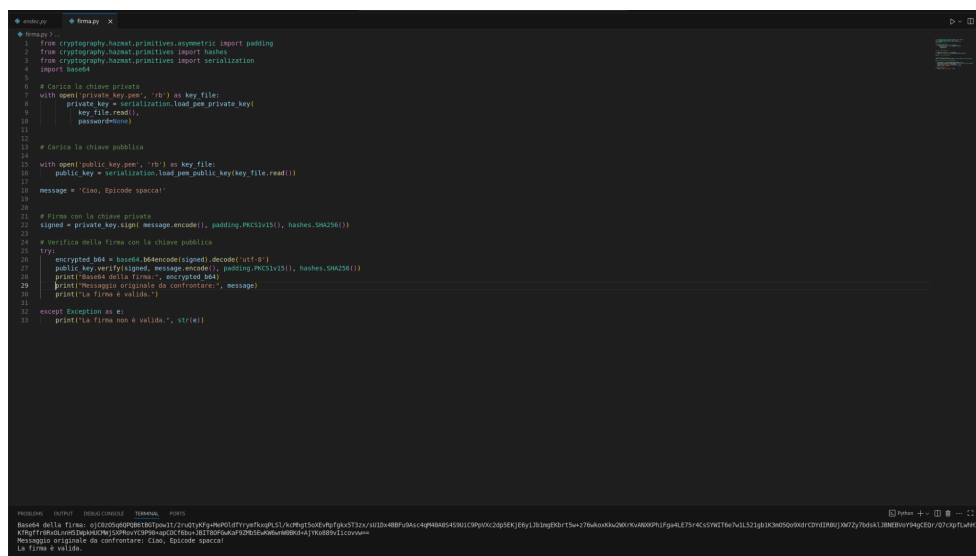
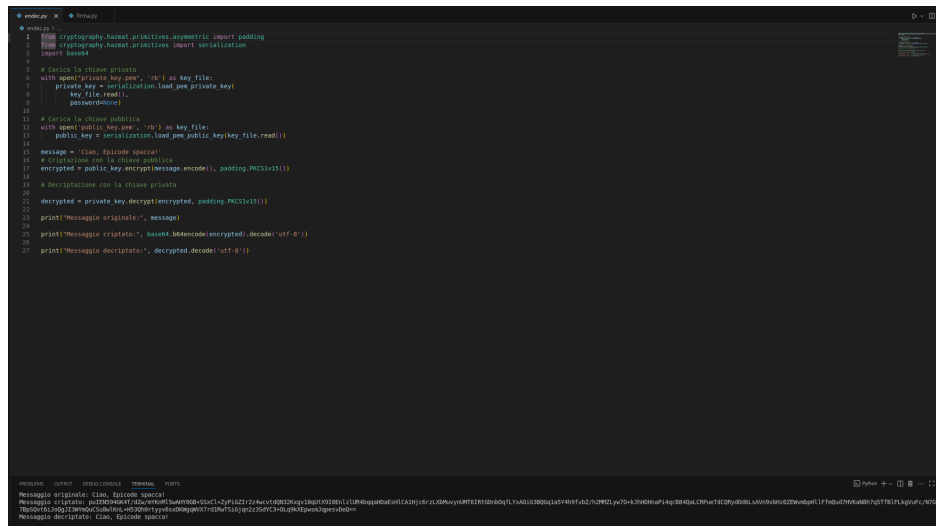
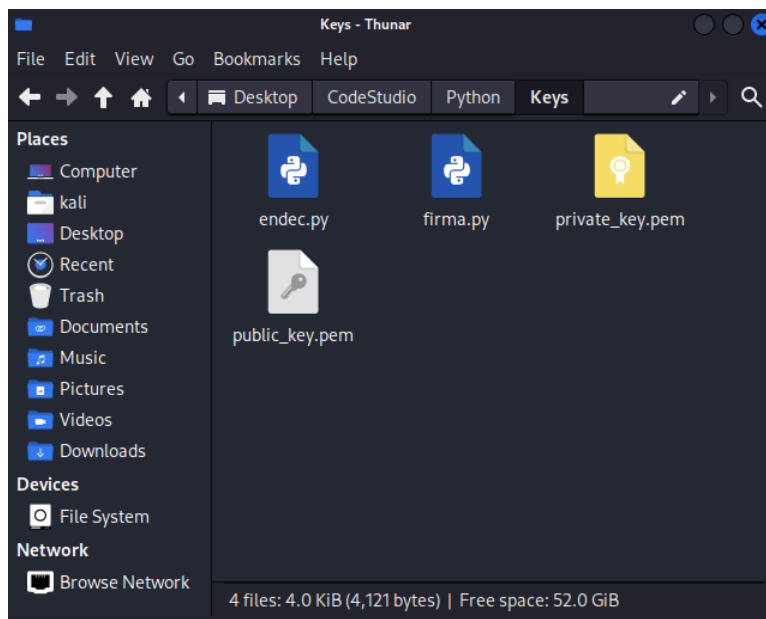
note: If you believe this is a mistake, please contact your Python installat
ion or OS distribution provider. You can override this, at the risk of break
ing your Python installation or OS, by passing --break-system-packages.
hint: See PEP 668 for the detailed specification.

(kali㉿kali)-[~]
$ apt install python3-cryptography
Error: Could not open lock file /var/lib/dpkg/lock-frontent - open (13: Perm
ission denied)
Error: Unable to acquire the dpkg frontend lock (/var/lib/dpkg/lock-frontent
), are you root?

(kali㉿kali)-[~]
$ sudo apt install python3-cryptography
python3-cryptography is already the newest version (43.0.0-3).
python3-cryptography set to manually installed.
The following packages were automatically installed and are no longer requir
ed:
icu-devtools          libxnnpack0
libabsl20230802       python3-aioconsole
libbdnsl3             python3-dunamai
libflac12t64          python3-nfsclient
libfuse3-3            python3-packaging-whl
libgeos3.13.0         python3-poetry-dynamic-versioning
libglapi-mesa         python3-pyinstaller-hooks-contrib
libicu-dev            python3-pywerview
libjxl0.10            python3-requests-ntlm
liblbfgsb0            python3-setproctitle
libopenh264-7        python3-tomlkit
libpoppler145        python3-wheel-whl
libpython3.12-minimal python3.12-tk
libpython3.12-stdlib  ruby-zeitwerk
libpython3.12t64      sphinx-rtd-theme-common
libutempter0         strongswan
Use 'sudo apt autoremove' to remove them.

Summary:
  Upgrading: 0, Installing: 0, Removing: 0, Not Upgrading: 1
```

L'unico accorgimento da tenere in considerazione per la corretta esecuzione degli script era quello di avere tutti i file presenti all'interno della stessa directory.



Conclusione:

L'esperimento ha dimostrato con successo il funzionamento della crittografia asimmetrica RSA. Il messaggio originale è stato cifrato utilizzando la chiave pubblica e successivamente decifrato correttamente tramite la chiave privata. Questo conferma la validità del sistema nel garantire la riservatezza delle informazioni.