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Ex.No:1 ***Date:01/08/2025***

CAPTURE FLAGS-ENCRYPTION CRYPTO 101

AIM:

To capture the various flags in Encryption Crypto 101 in TryHackMe platform.

ALGORITHM: 1. Access the Passive reconnaissance lab in TryHackMe platform using the
link below-

https://tryhackme.com/r/room/encryptioncrypto101

2. Click Start AttackBox to run the instance of Kali Linux distribution.

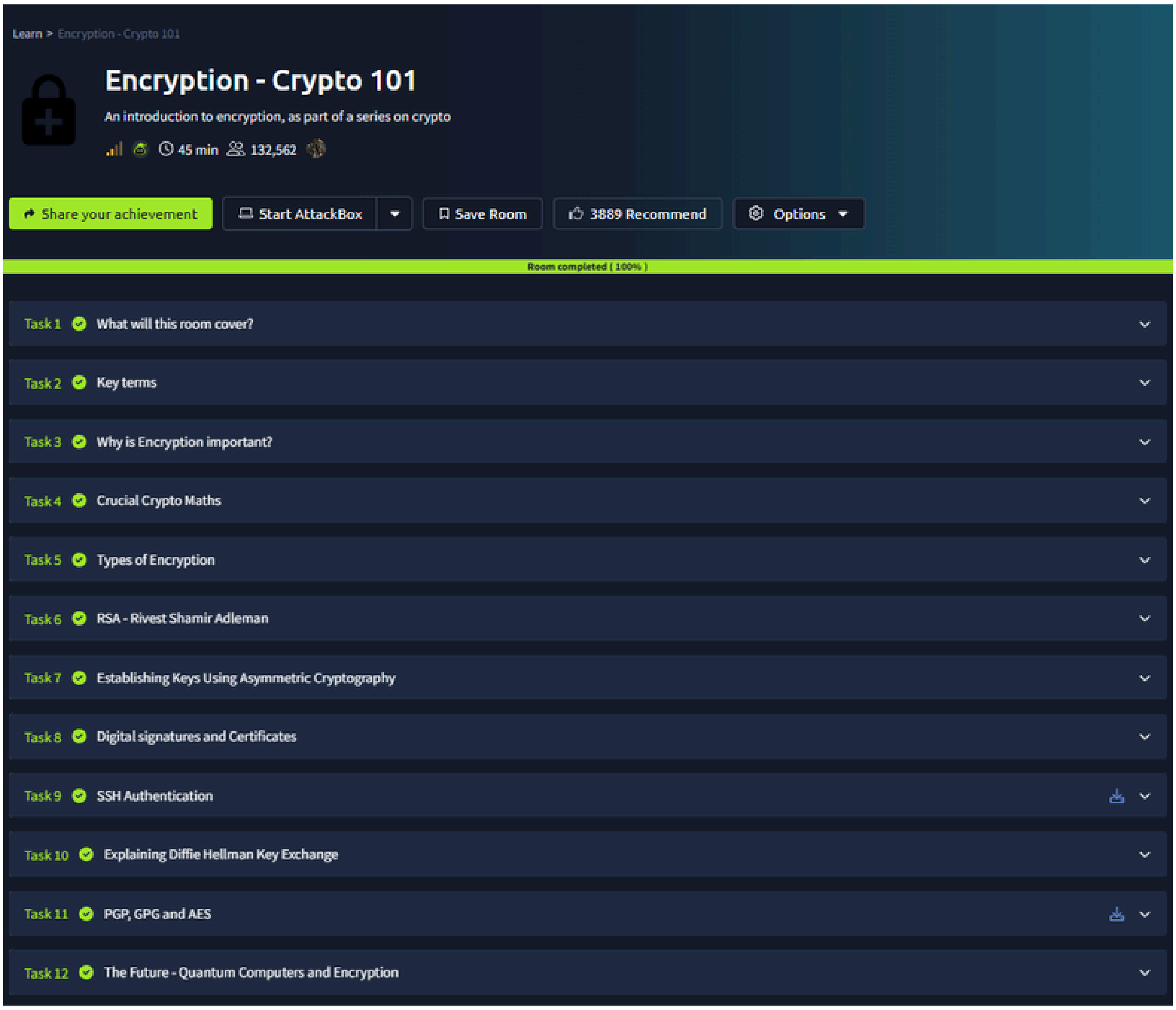
3. Solve the crypto math used in RSA.

4. Find out who issued the HTTPS Certificate to tryhackme.com

5. Perform SSH Authentication by generating public and private key pair using ssh-keygen

6. Perform decryption of the gpg encrypted file and find out the secret word.

OUTPUT:



Encryption - Crypto 101

An introduction to encryption, as part of a series on crypto

Task 1 ✓ What will this room cover?

Task 2 ✓ Key terms

Task 3 ✓ Why is Encryption important?

Task 4 ✓ Crucial Crypto Maths

Task 5 ✓ Types of Encryption

Task 6 ✓ RSA - Rivest Shamir Adleman

Task 7 ✓ Establishing Keys Using Asymmetric Cryptography

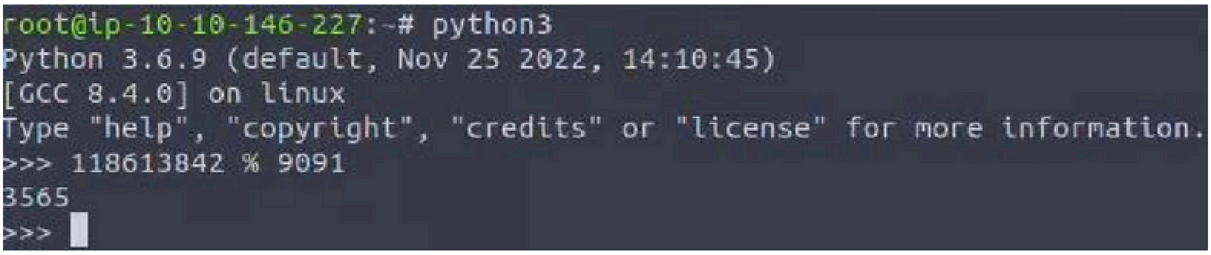
Task 8 ✓ Digital signatures and Certificates

Task 9 ✓ SSH Authentication

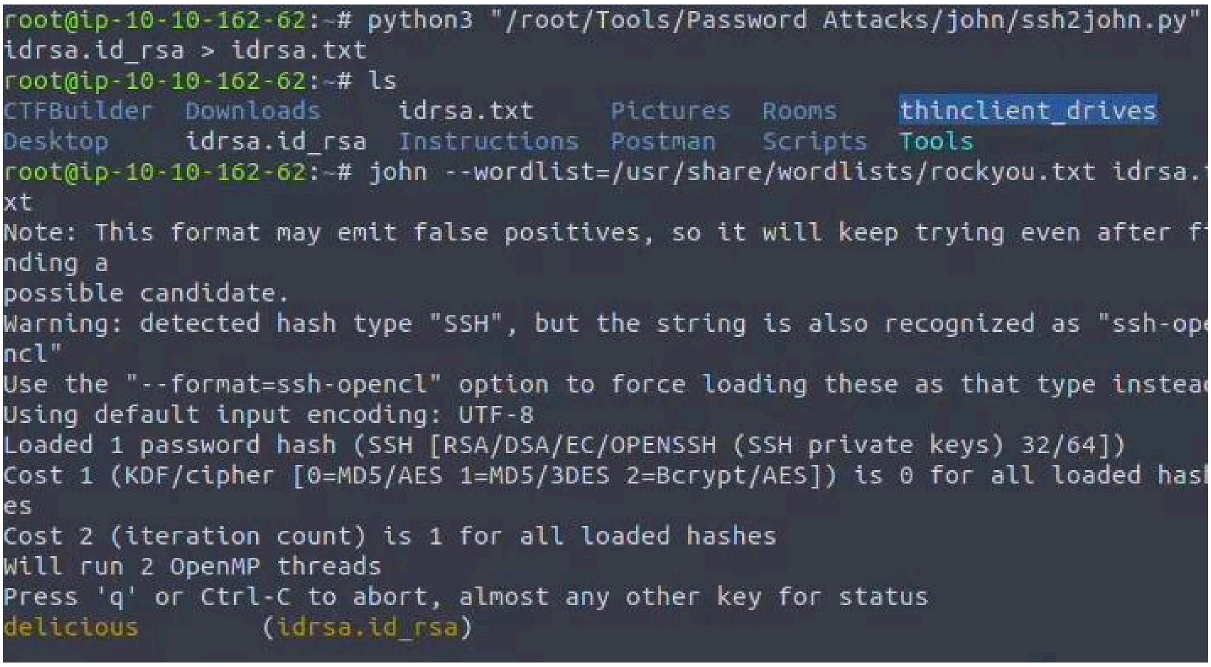
Task 10 ✓ Explaining Diffie Hellman Key Exchange

Task 11 ✓ PGP, GPG and AES

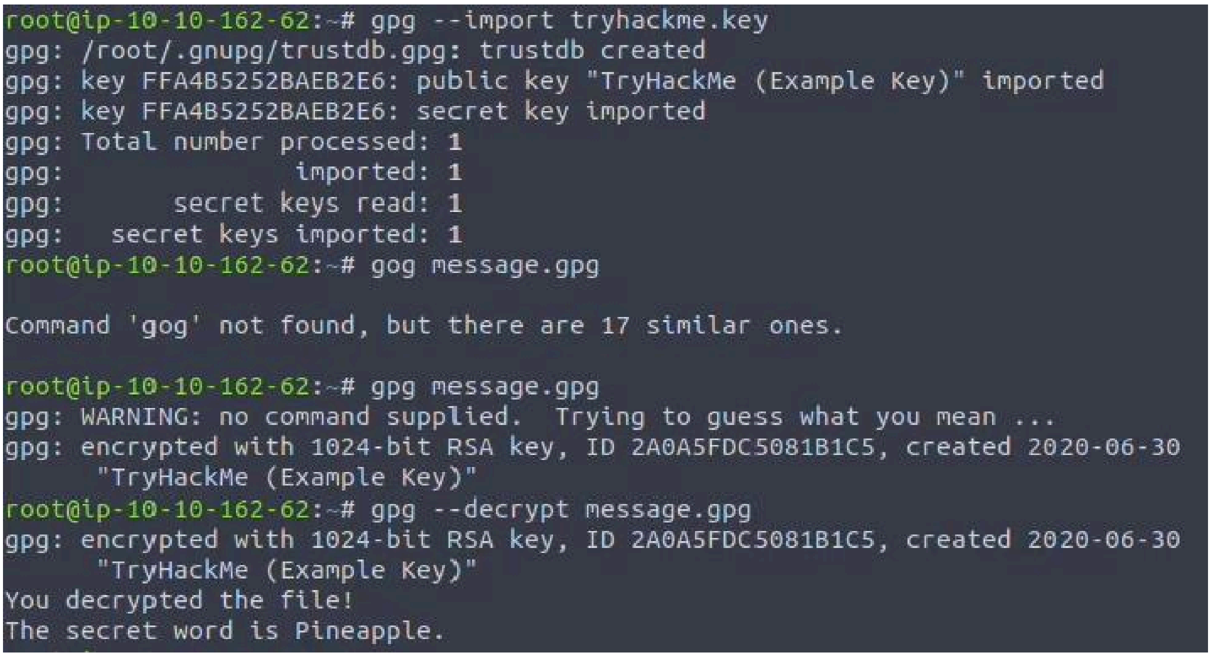
Task 12 ✓ The Future - Quantum Computers and Encryption



```
root@ip-10-10-146-227:~# python3
Python 3.6.9 (default, Nov 25 2022, 14:10:45)
[GCC 8.4.0] on linux
Type "help", "copyright", "credits" or "license" for more information.
>>> 118613842 % 9091
3565
>>>
```



```
root@ip-10-10-162-62:~# python3 "/root/Tools/Password Attacks/john/ssh2john.py"
idrsa.id_rsa > idrsa.txt
root@ip-10-10-162-62:~# ls
CTFBuilder  Downloads     idrsa.txt     Pictures  Rooms    thinclient_drives
Desktop     idrsa.id_rsa  Instructions  Postman   Scripts  Tools
root@ip-10-10-162-62:~# john --wordlist=/usr/share/wordlists/rockyou.txt idrsa.t
xt
Note: This format may emit false positives, so it will keep trying even after fi
nding a
possible candidate.
Warning: detected hash type "SSH", but the string is also recognized as "ssh-ope
ncl"
Use the "--format=ssh-opencl" option to force loading these as that type instea
Using default input encoding: UTF-8
Loaded 1 password hash (SSH [RSA/DSA/EC/OPENSSH (SSH private keys) 32/64])
Cost 1 (KDF/cipher [0=MD5/AES 1=MD5/3DES 2=Bcrypt/AES]) is 0 for all loaded has
es
Cost 2 (iteration count) is 1 for all loaded hashes
Will run 2 OpenMP threads
Press 'q' or Ctrl-C to abort, almost any other key for status
delicious        (idrsa.id_rsa)
```



```
root@ip-10-10-162-62:~# gpg --import tryhackme.key
gpg: /root/.gnupg/trustdb.gpg: trustdb created
gpg: key FFA4B5252BAEB2E6: public key "TryHackMe (Example Key)" imported
gpg: key FFA4B5252BAEB2E6: secret key imported
gpg: Total number processed: 1
gpg:               imported: 1
gpg:       secret keys read: 1
gpg:   secret keys imported: 1
root@ip-10-10-162-62:~# gog message.gpg

Command 'gog' not found, but there are 17 similar ones.

root@ip-10-10-162-62:~# gpg message.gpg
gpg: WARNING: no command supplied.  Trying to guess what you mean ...
gpg: encrypted with 1024-bit RSA key, ID 2A0A5FDC5081B1C5, created 2020-06-30
      "TryHackMe (Example Key)"
root@ip-10-10-162-62:~# gpg --decrypt message.gpg
gpg: encrypted with 1024-bit RSA key, ID 2A0A5FDC5081B1C5, created 2020-06-30
      "TryHackMe (Example Key)"
You decrypted the file!
The secret word is Pineapple.
```

RESULT:

Thus, the various flags have been captured in Encryption Crypto 101 in TryHackMe platform.