

Lab 1: Password Hashing

System Specs used in Test:

CPU: AMD Ryzen 7 3800x 8-Core Processor 4.20 GHz

RAM: 32.0 GB

```
C:\Program Files\WindowsApps\PythonSoftwareFoundation.Python.3.7_3.7.1776.0_x64__qbz5n2kfra8p0\python.exe
Done copying 500 passwords from rockyou.txt

Starting timer for argon2 hashing 500 passwords...
argon2 hashing algorithm's calculated speed: 22.07 hashes per second

Starting timer for sha1 hashing 500 passwords...
sha1 hashing algorithm's calculated speed: 91896.56 hashes per second

Starting timer for md5 hashing 500 passwords...
md5 hashing algorithm's calculated speed: 90530.51 hashes per second

Starting timer for sha512 hashing 500 passwords...
sha512 hashing algorithm's calculated speed: 89511.09 hashes per second

Press any key to continue . . .
```

	Argon2	Sha1	Md5	Sha512
Hashes/s	22.07	91,189.56	90,530.51	89,511.09

Hashing Algorithm breakdown:

- list = 500 passwords from rockyou.txt
- Hashing function:
 - Determine which hash function was called (md5, sha1, ext...)
 - For each string stored in a specified password list:
 - Create hash object
 - Update hash object with byte string in list
 - Store the hex digest in a temporary string.
- For each hashing algorithm:
 - Call Timer function of the timeit module to calculate time to hash list
 - Calculate hashes per second: length of list / time