

Comp430 Data Privacy and Security Homework4 Report Fall-2022

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IMPORTANT NOTE: If you have not got “pandas” library in your machine, you should install pandas by typing “pip install pandas” or “pip3 install pandas” before running my codes in the Question-1.

Question – 1

Part - 1:

Passwords of Creed, Meredith, Stanley, and Phyllis:

Password of Creed: cocacola

Password of Meredith: 50cent

Password of Stanley: patrick

Password of Phyllis: newyork

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/Users/barissss/Downloads/pythonProject/venv/bin/python /Users/barissss/Downloads/pythonProject/Part1.py
The dictionary attack with no salt usage and no key streching usage starts running now !!!

User named Creed has the password cocacola and the hash of this password is f286725e49415dfefb4546d96bba3dc88e9d9d096ff4e5b1e92c94ae237edefee7d9571dfbcfe6a9878ad3bd955
User: Creed , Password: cocacola , Hash: f286725e49415dfefb4546d96bba3dc88e9d9d096ff4e5b1e92c94ae237edefee7d9571dfbcfe6a9878ad3bd95559e2c4e121f4f1917b17ba224c716fa2ac

User named Meredith has the password 50cent and the hash of this password is 7f8e33ea99bca90fe54caf134c9258e160945600e068494019d04fd742a0a75445f9ecd09b771220cdedb8b5d
User: Meredith , Password: 50cent , Hash: 7f8e33ea99bca90fe54caf134c9258e160945600e068494019d04fd742a0a75445f9ecd09b771220cdedb8b5dfb7f4236686a31eb850d9cdbc44f79c03e

User named Stanley has the password patrick and the hash of this password is d8e44d39c4e438dc668c4e105c536a2a90630f51b4d2bfcf619fc69b46cf2103499db0c091b1cee920fd958da
User: Stanley , Password: patrick , Hash: d8e44d39c4e438dc668c4e105c536a2a90630f51b4d2bfcf619fc69b46cf2103499db0c091b1cee920fd958da39e361f22e37ebdee86568738df3cb318c

User named Phyllis has the password newyork and the hash of this password is 8512de11f6042ae4128256c8e6c1bfb68ee50434ab09ae0973cba0c09557619383f4ca6dfdb7673156ee21502
User: Phyllis , Password: newyork , Hash: 8512de11f6042ae4128256c8e6c1bfb68ee50434ab09ae0973cba0c09557619383f4ca6dfdb7673156ee21502ba6412d3f8b94b327b9438ecc24f57b57d

The dictionary attack with no salt usage and no key streching usage ends running now !!!

Process finished with exit code 0
```

The first screenshot which displays the username, the corresponding password of this username, and the corresponding hash of this password (For each user in the set of users which include Creed, Meredith, Stanley, and Phyllis).

```
n/python /Users/barissss/Downloads/pythonProject/Part1.py
key streching usage starts running now !!!

the hash of this password is f286725e49415dfefb4546d96bba3dc88e9d9d096ff4e5b1e92c94ae237edefee7d9571dfbcfe6a9878ad3bd95559e2c4e121f4f1917b17ba224c716fa2ac964e
25e49415dfefb4546d96bba3dc88e9d9d096ff4e5b1e92c94ae237edefee7d9571dfbcfe6a9878ad3bd95559e2c4e121f4f1917b17ba224c716fa2ac964e

the hash of this password is 7f8e33ea99bca90fe54caf134c9258e160945600e068494019d04fd742a0a75445f9ecd09b771220cdedb8b5dfb7f4236686a31eb850d9cdbc44f79c03e743ea
33ea99bca90fe54caf134c9258e160945600e068494019d04fd742a0a75445f9ecd09b771220cdedb8b5dfb7f4236686a31eb850d9cdbc44f79c03e743ea

the hash of this password is d8e44d39c4e438dc668c4e105c536a2a90630f51b4d2bfcf619fc69b46cf2103499db0c091b1cee920fd958da39e361f22e37ebdee86568738df3cb318c36b63
4d39c4e438dc668c4e105c536a2a90630f51b4d2bfcf619fc69b46cf2103499db0c091b1cee920fd958da39e361f22e37ebdee86568738df3cb318c36b63

the hash of this password is 8512de11f6042ae4128256c8e6c1bfb68ee50434ab09ae0973cba0c09557619383f4ca6dfdb7673156ee21502ba6412d3f8b94b327b9438ecc24f57b57dc3afc
de11f6042ae4128256c8e6c1bfb68ee50434ab09ae0973cba0c09557619383f4ca6dfdb7673156ee21502ba6412d3f8b94b327b9438ecc24f57b57dc3afc

key streching usage ends running now !!!
```

This screenshot is just for showing the parts that are exceeding the shown part of my terminal (in Part1 of the Question1)

Part - 2:

True Passwords of Kevin, Angela, Oscar, and Darryl:

True Password of Kevin: tinkerbelle

True Password of Angela: chrisbrown

True Password of Oscar: chivas

True Password of Darryl: eminem

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/Users/barissss/Downloads/pythonProject/venv/bin/python /Users/barissss/Downloads/pythonProject/Part2.py

The dictionary attack with salt usage and no key stretching usage starts running now !!!

The user named Kevin has the following password tinkerbelle which has a following found hash c6050538cc65f06079a3e17abe415cb31c2ef1d5c8a18d2b9d90cb85b62d29dabe664879331c1e1d46f207982ee32d7f2cec94384a142b76ca0e8b504ea4cdc0
User: Kevin, Password: tinkerbelle, Hash: c6050538cc65f06079a3e17abe415cb31c2ef1d5c8a18d2b9d90cb85b62d29dabe664879331c1e1d46f207982ee32d7f2cec94384a142b76ca0e8b504ea4cdc0

The user named Angela has the following password chrisbrown which has a following found hash 9cfe4177d36350de4dbacb41ec735b5e07492415e9aa624fa407b4cf63fe93ee32753e1e4d1e9bbe80dd88a5169a366a96ac11215dc56bd269e3ad80f4ea1559
User: Angela, Password: chrisbrown, Hash: 9cfe4177d36350de4dbacb41ec735b5e07492415e9aa624fa407b4cf63fe93ee32753e1e4d1e9bbe80dd88a5169a366a96ac11215dc56bd269e3ad80f4ea1559

The user named Oscar has the following password chivas which has a following found hash 6be96652538e7ae4835e071e101117279c1a8e0f37a562689f90808468710a1af7ad617acc15e3d169a77b37fac0ff034e9176921624d44debc779f20298d401
User: Oscar, Password: chivas, Hash: 6be96652538e7ae4835e071e101117279c1a8e0f37a562689f90808468710a1af7ad617acc15e3d169a77b37fac0ff034e9176921624d44debc779f20298d401

The user named Darryl has the following password eminem which has a following found hash cfedd51710a577ee51277cdcac2045a8483275f4b61a2749d34b064bf937e90871d96aabceec5690a9e865d2d2ca59de9e11ea55c33d93694bf5e8c1c0564b5ee
User: Darryl, Password: eminem, Hash: cfedd51710a577ee51277cdcac2045a8483275f4b61a2749d34b064bf937e90871d96aabceec5690a9e865d2d2ca59de9e11ea55c33d93694bf5e8c1c0564b5ee

The dictionary attack with salt usage and no key stretching usage terminates running now !!!

Process finished with exit code 0
```

The first screenshot which displays the username, the corresponding password of this username, and the corresponding hash of this password (For each user in the set of users which include Kevin, Angela, Oscar, and Darryl).

```
rissss/Downloads/pythonProject/Part2.py

starts running now !!!

has a following found hash c6050538cc65f06079a3e17abe415cb31c2ef1d5c8a18d2b9d90cb85b62d29dabe664879331c1e1d46f207982ee32d7f2cec94384a142b76ca0e8b504ea4cdc0
be415cb31c2ef1d5c8a18d2b9d90cb85b62d29dabe664879331c1e1d46f207982ee32d7f2cec94384a142b76ca0e8b504ea4cdc0

has a following found hash 9cfe4177d36350de4dbacb41ec735b5e07492415e9aa624fa407b4cf63fe93ee32753e1e4d1e9bbe80dd88a5169a366a96ac11215dc56bd269e3ad80f4ea1559
1ec735b5e07492415e9aa624fa407b4cf63fe93ee32753e1e4d1e9bbe80dd88a5169a366a96ac11215dc56bd269e3ad80f4ea1559

a following found hash 6be96652538e7ae4835e071e101117279c1a8e0f37a562689f90808468710a1af7ad617acc15e3d169a77b37fac0ff034e9176921624d44debc779f20298d401
17279c1a8e0f37a562689f90808468710a1af7ad617acc15e3d169a77b37fac0ff034e9176921624d44debc779f20298d401

a following found hash cfedd51710a577ee51277cdcac2045a8483275f4b61a2749d34b064bf937e90871d96aabceec5690a9e865d2d2ca59de9e11ea55c33d93694bf5e8c1c0564b5ee
045a8483275f4b61a2749d34b064bf937e90871d96aabceec5690a9e865d2d2ca59de9e11ea55c33d93694bf5e8c1c0564b5ee

terminates running now !!!
```

This screenshot is just for showing the parts that are exceeding the shown part of my terminal (in Part2 of the Question1)

Part - 3:

```
/Users/barissss/Downloads/pythonProject/venv/bin/python /Users/barissss/Downloads/pythonProject/Part3.py

The dictionary attack with salt usage and no key stretching usage starts running now !!!

User Jim having the password hottie having the hash 3b3a82652d9f3a5a3ed894665f106ffe36b845490d588d4b58938ede28e514a3187fa63cd3d6cafc37cec8918b8c6ec05488258ce6af3a9e11
The number of iterations is 1258
User Pam having the password cutiepie having the hash 817367d6e9b8e4219fa5c78d85ca75e9ed1dc6f64eb7476e1f582f088d1f023b299ba6148b84ff439e538ab18f61a5165f0c34d1b39a6788
The number of iterations is 1258
User Dwight having the password angelica having the hash 483075aa9c8b9298eb882d22c4a54bd522f8694d44b91f4a8fe48c580e06f47b4ebe0b6c579d1322dcc501297cd7416dfca0f7d370d19
The number of iterations is 1258
User Michael having the password superstar having the hash 3e4d009b62c74dd4a14085deb5463bec3b7f8cf2ed3a38e0ccf9e0b2eedbc7ba38e563aa730e3397b48a50389bd34cfe86e8df14c25
The number of iterations is 1258

The dictionary attack with salt usage and no key stretching usage terminates running now !!!

Process finished with exit code 0
|
```

This screenshot shows the passwords of Jim, Pam, Dwight, and Michael (I have taken this SS from my Pycharm terminal)

As you can also see in the above screenshot, the passwords of Jim, Pam, Dwight, and Michael are as follows:

Password of Jim: hottie

Password of Pam: cutiepie

Password of Dwight: angelica

Password of Michael: superstar

```
367d6e9b8e4219fa5c78d85ca75e9ed1dc6f64eb7476e1f582f088d1f023b299ba6148b84ff439e538ab18f61a5165f0c34d1b39a6788968bcd139355cd7c

483075aa9c8b9298eb882d22c4a54bd522f8694d44b91f4a8fe48c580e06f47b4ebe0b6c579d1322dcc501297cd7416dfca0f7d370d199f0d05d79d9c55b53e9

n 3e4d009b62c74dd4a14085deb5463bec3b7f8cf2ed3a38e0ccf9e0b2eedbc7ba38e563aa730e3397b48a50389bd34cfe86e8df14c252b3a137ea4bfe83da51f

g usage terminates running now !!!
```

This screenshot is just for showing the hash parts exceeding the terminal screen