# CYB101 Project 3

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## Reflection (Required)

🤔 **Reflection Question #1:** If I had to **explain "password security" in 3 emojis,** they would be…
(Feel free to put other comments about your experience this unit here, too!)

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🛡**Reflection Question #2:** What factors make a password hash difficult to crack?  Does that match with usual "password requirements" for signing up to websites?

The number of characters the password contains. The more characters, the more entropy.

📣 **Shoutouts:** Share appreciation for anyone who helped you out with this project or made your day a little better!

## Password Cracking Challenge (Required)

Use the answer boxes below to input your screenshots and example commands for this project. Clarifying notes are optional.

**Total Number of Cracked Hashes** (Screenshot of output from `john --show CPLeak.txt`)

```
mbarnard:kivi
darrington:gude
esimpson:torii
dhaskins:skey
mgibbs:kemal
ddrake:ggg
tgandhi:noam
ahatcher:marne
yhussain:steen
dharden:Bless
atiwari:Shy

453 password hashes cracked, 547 left
codepath@idx-cyb101-idx-1742071098578:~/unit3$ john --rules=Jumbo --wordlist=rockyou.txt --max-length=6 cp_leak.txt
Warning: detected hash type "md5crypt", but the string is also recognized as "md5crypt-long"
Use the "--format=md5crypt-long" option to force loading these as that type instead
Using default input encoding: UTF-8
```

**Notes** (Optional)**:**

## Sample `john` commands

*Please type or copy-and-paste your commands into the boxes below. You do not need tonclude screenshots of running the commands.*

**Command #1:** a `john` command using **a different wordlist** (not lower.lst)

```
john --wordlist=rockyou.txt --max-length=4 cp_leak.txt
```

**Command #2:** a `john` command using **a built-in ruleset**

```
john --rules=Jumbo --wordlist=rockyou.txt --max-length=5 cp_leak.txt
```

**Command #3:** a `john` command using **a custom mask**

```
john --mask=?d?d?d?d cp_leak.txt
```

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## Submission Checklist

👉*Check off each of the features you have completed. **You will only be graded on the features you check off.***

**Reflection**

- ☑ ~~Reflection Question #1 answered above~~
- ☑ ~~Reflection Question #2 answered above~~

**Required Challenge**

- ☑ ~~Screenshot of Total Passwords Cracked~~
  - ☑ ~~250+ Passwords Cracked~~
- ☑ ~~Command #1~~
- ☑ ~~Command #2~~
- ☑ ~~Command #3~~

**Stretch Challenge**

- ☐ 500+ Passwords Cracked
- ☐ 750+ Passwords Cracked
- ☐ 1000 Passwords Cracked