


This is CS50

This is CS50

- Hello, ~~world~~ families!
- Do **say hi** or ask questions (or ask for stress ball ) after class!

This is CS50

If RSVP'd for CS50 Lunch
at Changsho after lecture,
look for this yellow duck in
the lobby to follow!



open
cs50.ly/poll
on your phone





This is CS50

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0101000001000001010100110101001101010111010011110101001001000100

passwords

1. 123456
2. 123456789
3. 12345
4. qwerty
5. password
6. 12345678
7. 111111
8. 123123
9. 1234567890
10. 1234567

4-digit passcode



brute-force attacks

4-digit passcode



$$10 \times 10 \times 10 \times 10$$

10,000

4-letter passcode



$$52 \times 52 \times 52 \times 52$$

7,311,616

4-character passcode

$$94 \times 94 \times 94 \times 94$$

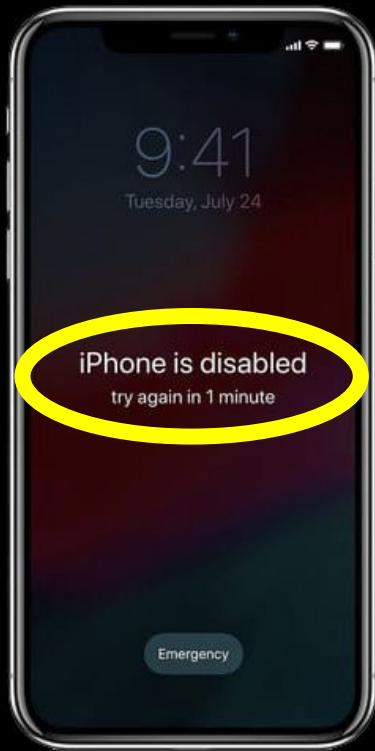
78,074,896

8-character passcode

94 × 94 × 94 × 94 × 94 × 94 × 94 × 94

6,095,689,385,410,816





iPhone is disabled
try again in 1 minute

Emergency

9:41

Tuesday, July 24

iPhone is disabled

try again in 1 minute

Emergency

Google Fi

📶 ⓘ 📶 🔋 60%



11:27

Thu, May 28 ☁ 24°C

Too many attempts. Try again later.

Google Fi

60%



11:27

Thu, May 28 24°C

Too many attempts. Try again later.



Too many attempts. Try again later.



Sign in

to continue to Gmail

[Forgot email?](#)

Not your computer? Use Guest mode to sign in privately.

[Learn more](#)

[Create account](#)

Next

password managers

- Credential Manager
- Keychain
- 1Password
- LastPass
- ...

two-factor authentication



2-step Verification

Use your device to sign in to your Google Account.



Enter verification code

Get a verification code from the "Google Authenticator" app

Done

☒ Don't ask again on this computer

encryption

T H I S I S C S 5 0

U H I S I S C S 5 0

U I I S I S C S 5 0

U I J S I S C S 5 0

U I J T I S C S 5 0

U I J T J S C S 5 0

U I J T J T C S 5 0

U I J T J T D S 5 0

U I J T J T D T 5 0

https://

end-to-end encryption





Schedule Meeting

Topic

Cybersecurity

Date & Time

11/ 4/2022 ▾

12:00 PM ▾

to

1:00 PM ▾

11/ 4/2022 ▾

☐ Recurring meeting

Time Zone: Eastern Time (US and Canada) ▾

Security



Passcode

123456



Only users who have the invite link or passcode can join the meeting



Waiting Room

Only users admitted by the host can join the meeting



Only authenticated users can join: Sign in to Zoom

Encryption



Enhanced encryption ?



End-to-end encryption ?

Several features will be automatically disabled when using end-to-end encryption, including cloud recording and phone/SIP/H.323 dial-in.

[Learn more](#)



full-disk encryption

- BitLocker
- FileVault
- ...

ransomware

incognito mode



New Tab



Search Google or type a URL



Incognito



You've gone Incognito

Now you can browse privately, and other people who use this device won't see your activity. However, downloads, bookmarks and reading list items will be saved. [Learn more](#)

Chrome won't save the following information:

- Your browsing history
- Cookies and site data
- Information entered in forms

Your activity might still be visible to:

- Websites you visit
- Your employer or school
- Your internet service provider

Block third-party cookies

When on, sites can't use cookies that track you across the web. Features on some sites may break.



Homework

1. Use a password manager
2. Use two-factor authentication
3. Use (end-to-end) encryption

edx.org/cs50

U I J T X B T D T 5 0

T H I S X B T D T 5 0

T H I S W A S D T 5 0

T H I S W A S C S 5 0

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