

# CS50 for JDs

[cs50.harvard.edu/hls](https://cs50.harvard.edu/hls)

**secure**



Join Zoom Meeting

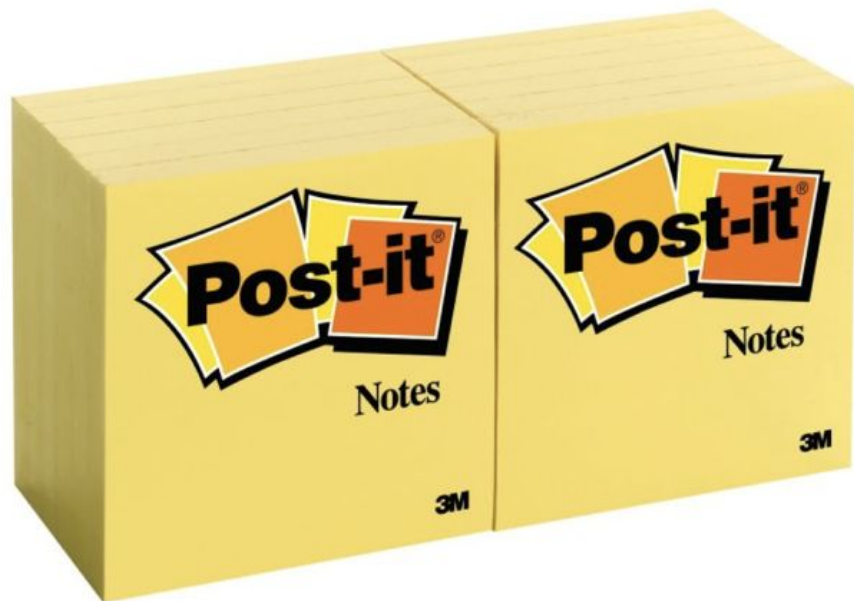
<https://zoom.us/j/5551112222?pwd=#####>

Meeting ID: 984 1966 1903

Passcode: 350840

end-to-end encryption

passwords



1. 123456
2. 123456789
3. picture1
4. password
5. 12345678
6. 111111
7. 123123
8. 12345
9. 1234567890
10. senha



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

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

6,095,689,385,410,816



9:41

Tuesday, July 24

**iPhone is disabled**

try again in 1 minute

Emergency



9:41  
Tuesday, July 24

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.

two-factor authentication





password managers



[1password.com](https://1password.com)

[lastpass.com](https://lastpass.com)

...

SSO

hashes

encryption

Or fher gb qevax lbhe Binygvar.

secret-key encryption



Memo:  
Confidential  
  
Re:  
Fiscal Review  
  
This quarter's  
earnings have  
just come in  
and...

plaintext



encryption

BEGIN PGP  
  
gANQR1DBw  
U+dB/b95Xx  
QQzrGYXD9  
VSoOTF6gk  
IXTBPce8+M  
mdf&UWLdDe5  
  
END PGP

ciphertext



decryption

Memo:  
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earnings have  
just come in  
and...

plaintext

Or fher gb qevax lbhe Binygvar.



Be sure to drink your Ovaltine.

public-key encryption

public key



private key



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plaintext



encryption

BEGIN PGP  
qANQR1DBw  
U+dB/t95Xx  
QQzrGYXD9  
VSoOTF6gk  
/XTBPce8+M  
mdf&UULdDe5  
END PGP

ciphertext



decryption

Memo:  
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Re:  
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This quarter's  
earnings have  
just come in  
and...

plaintext

HTTPS

forgot password?

email

# Confidential mode

Recipients won't have the option to forward, copy, print, or download this email. [Learn more](#)

## SET EXPIRATION

Expires in 1 week



Thu, Nov 4, 2021

## REQUIRE PASSCODE

All passcodes will be generated by Google. 



No SMS passcode



SMS passcode

Cancel

Save

# Report Phishing



Deleting helps you, reporting helps everyone.

**phishing@harvard.edu**

Learn to click wisely at [security.harvard.edu](https://security.harvard.edu).





PGP

digital signatures

VPNs

[haveibeenpwned.com](https://haveibeenpwned.com)

ransomware

storage







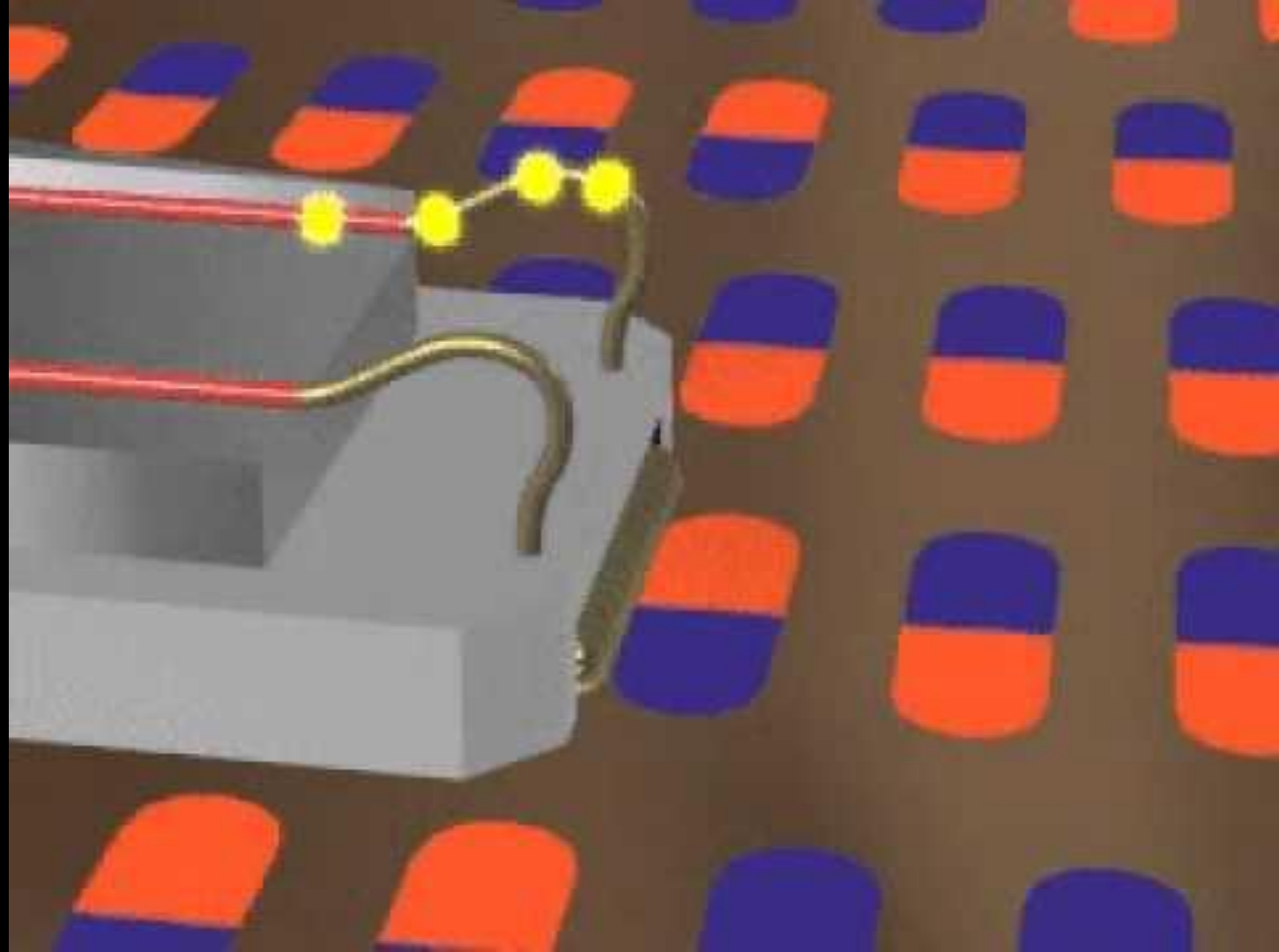












[dban.org](http://dban.org)













full-disk encryption

automatic updates

firewalls

port scanning



viruses, worms

keyloggers

open-source software

incognito mode

cookies



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.



DELETE COOKIES?!

gegen-den-strich.com

FERNANDEZ



de-identification



**Netflix Prize**

**COMPLETED**

# Seminars

# Assignment 6

# Office Hours

# CS50 for JDs

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