

# Cybersecurity

Code Girls 2021-22



**It's Cybersecurity  
Month!!**



## Objective:

- Discuss recent events regarding Twitch
  - ◆ Learn about source code
  - ◆ Learn about why this happened
- Learn about public & private keys
  - ◆ How modulus works
  - ◆ How public and private keys work

**What do you fear the most when it comes your information on the internet?**



# Recent News: The Source Code of Twitch has Been Leaked

What is open and closed source?

What is Twitch?

What happened?

What information has been leaked?



# What is Open Source Code?

Think of it like a group project that anyone can join. Anyone can inspect, modify, and enhance it. For example, Android, Linux, and Mozilla Firefox are examples of open source projects.



# What is Closed Source Code?

The opposite of open source, only people who have access to the source code are allowed to inspect, modify, and enhance it. For example... almost every website, application, or social media you use.

i.e : Instagram, Discord, Google, Youtube, and... Twitch



# Twitch



Twitch is a service owned by Amazon where people can create live streams. A majority of the streams are video games while other popular categories involve interacting with viewers through a chat feature.

People can make money off of Twitch through advertisements, direct donations, or 'bits'.





## What Happened?

- More than 100 GB of data was brought to light by a “server configuration error” on October 6th.
  - This was caused by human error, which exposed some data.
  - It has not been said *when* this error occurred
- The change was accessed by a malicious third party
- The data was posted to 4Chan as a download link.
  - The reason behind the posted link was to “to foster more disruption and competition”
- Everyone has access to “part one” of the data
  - This implies that there are more parts to the leak



# What Information has been leaked?

- Salaries of popular streamers
  - #not including other factors such as tax, worker payout, or
- Twitch's "Do not ban-list"
  - This list contains people who are cannot be removed from the site
- Code
- Details on unreleased projects

#Twitch made a statement that "Twitch passwords have not been exposed" and "We are also confident that systems that store Twitch login credentials... were not accessed, nor were full credit card numbers or ACH / bank information."

#Even if the service states that certain data has not been leaked, it is important to stay safe regardless. Many recommend using two factor authentication and/or changing your password.

# Modulo (%): What is it?



**Solve:**

$$14/7 =$$

$$3/27 =$$

$$72/8 =$$

$$24/9 =$$

$$128/32 =$$

$$39/4 =$$



# Modulo...is Simple

#Remember 4th grade math? What did we use instead of decimals?

$$14 \% 7 =$$

$$3 \% 27 =$$

$$72 \% 8 =$$

$$24 \% 9 =$$

$$128 \% 32 =$$

$$39 \% 4 =$$



# Modulo Calculator

A quick program to do those calculations for us!

Replit link:

<https://replit.com/@CodeGirls1/21-22-Modulo-Calculator?v=1>



## Public and Private Keys are not as Simple:

There are lectures that go on for hours talking about this kind of cryptography...but we have less than 15 minutes... let's talk about it.

This activity involves three people: Alice, Bob, and Eve (Eavesdropper)

<https://studio.code.org/s/allthethings/lessons/31/levels/2>



# Acknowledgments

Thanks to:

- Ms. B for sponsoring our club and guidance





## Sources:

<https://studio.code.org/s/allthethings/lessons/31/levels/1> = Code.org (Modulo Clock)

<https://studio.code.org/s/allthethings/lessons/31/levels/2> = Code.org (Modulo Equation with public and private keys)

Twitch sources:

<https://www.bbc.com/news/technology-58817658> = October 6th article

<https://www.bbc.com/news/technology-58829604> = October 7th article

<https://blog.twitch.tv/en/2021/10/15/updates-on-the-twitch-security-incident/> = Twitch