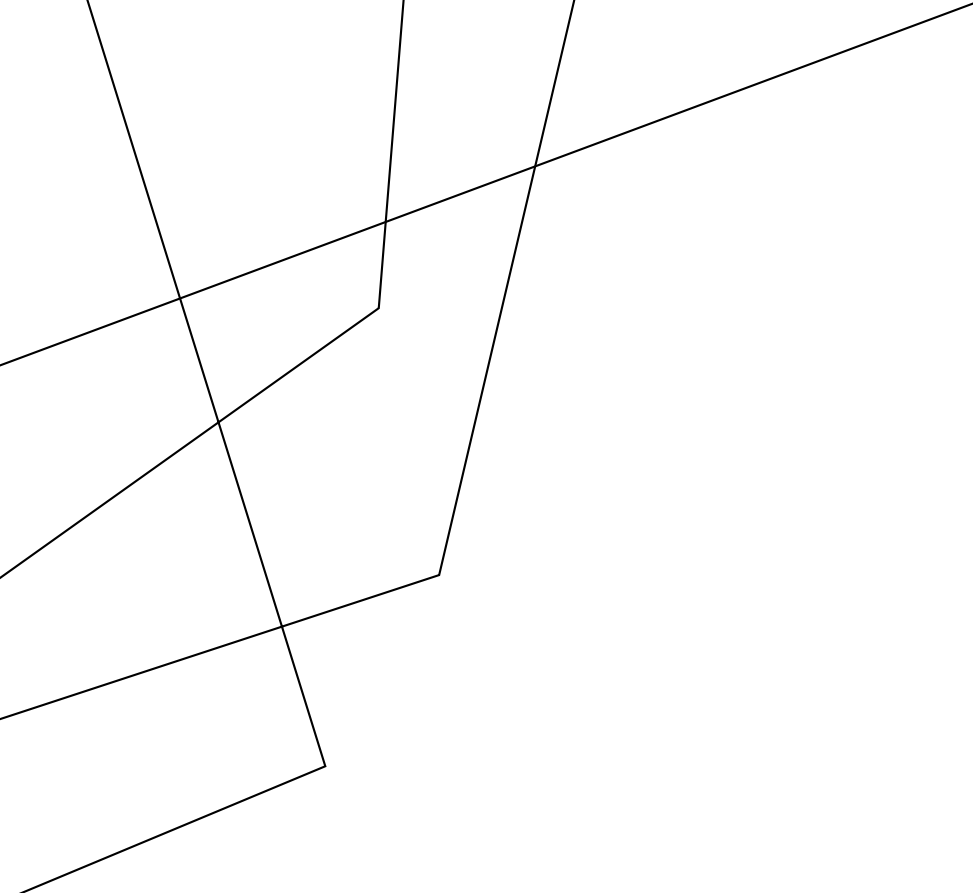


EXERCISE 33

SMT SOLVING REVIEW

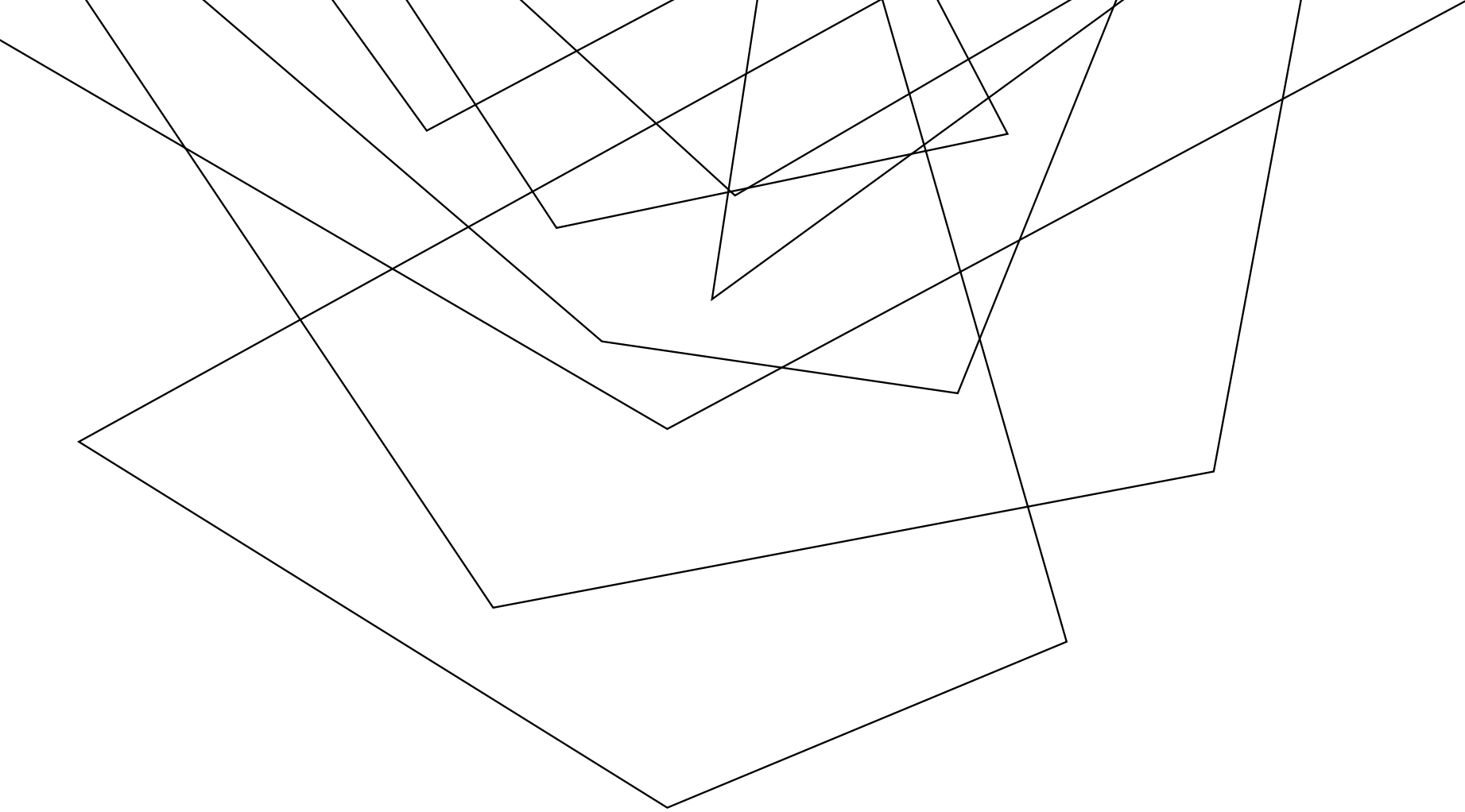
Write your name and answer the following on a piece of paper

To what theory does EUF refer in SMT Solving? How is EUF useful?



ADMINISTRIVIA AND ANNOUNCEMENTS

Review Session Tonight
(Pizza poll)



WEB SECURITY

EECS 677: Software Security Evaluation

Drew Davidson

SHIFTING GEARS

OVERVIEW

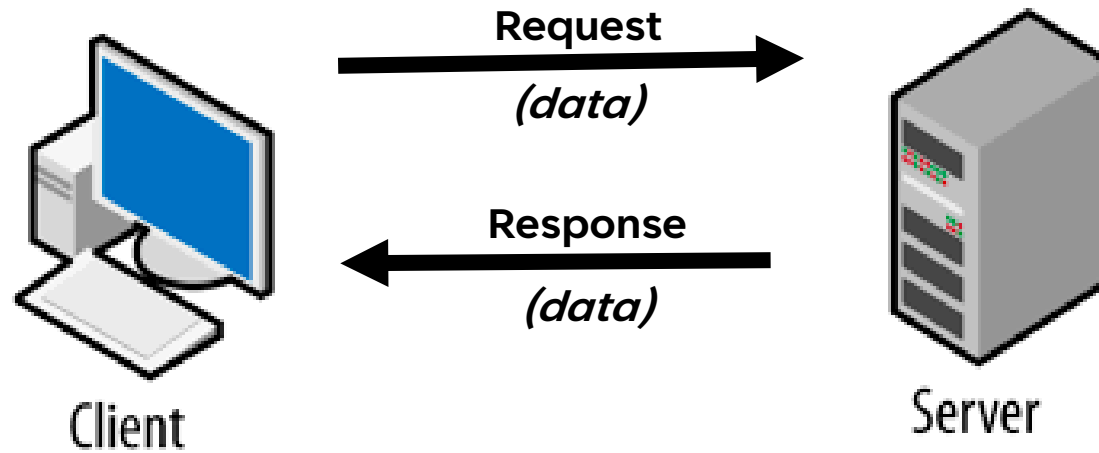
On to a different topic: web security!

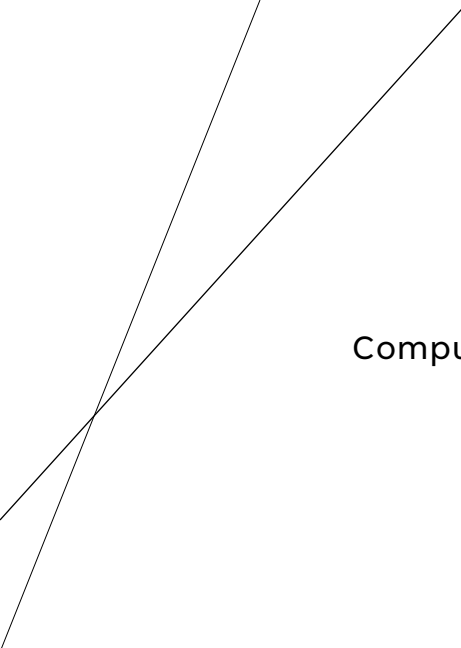


THE INTERCONNECTED WEB

OVERVIEW

Computers (largely) communicate in a client-server relationship



Two thin, dark diagonal lines intersecting in the upper-left corner of the page.

STATIC HTML EXAMPLE

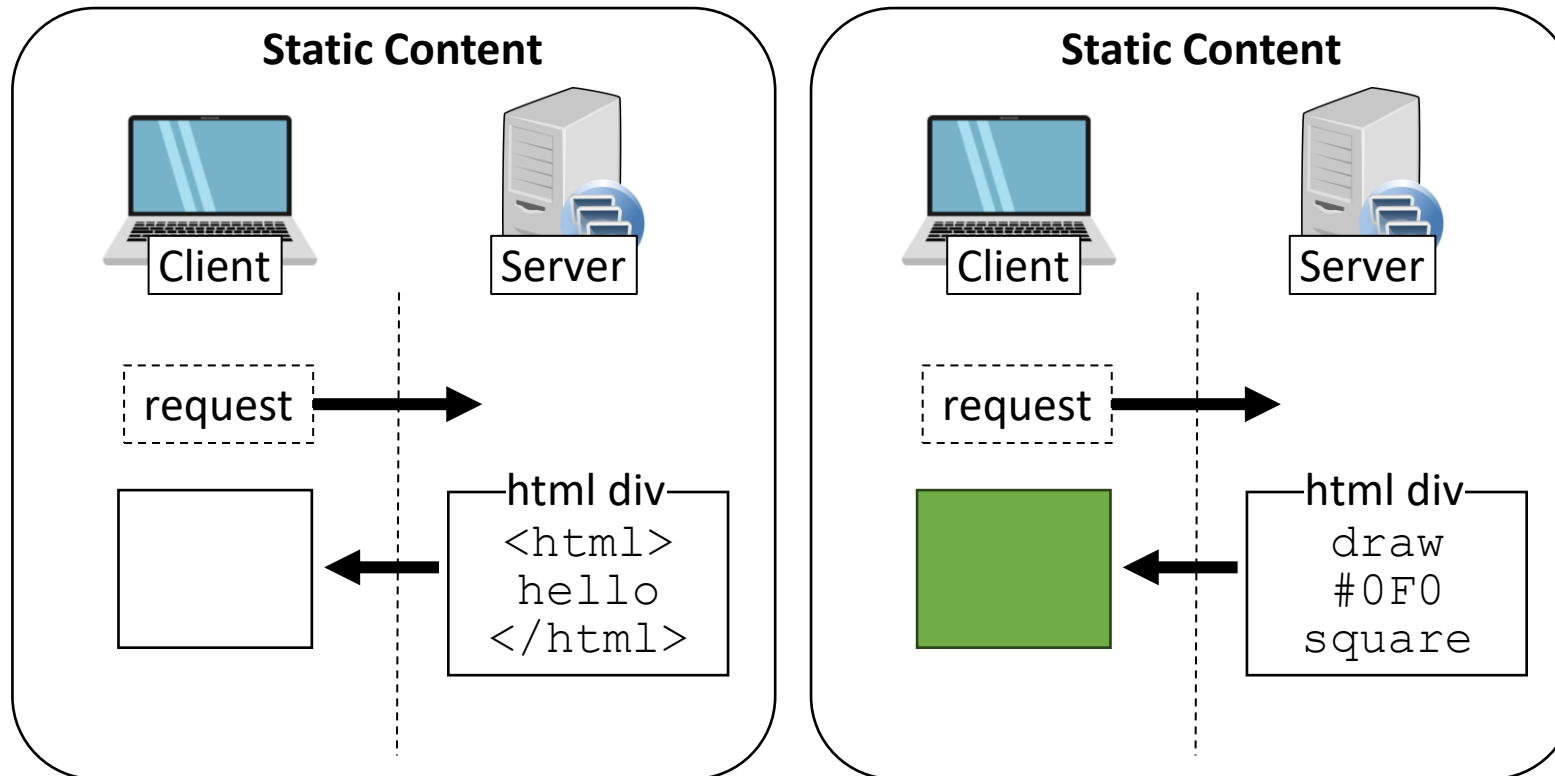
OVERVIEW

Computers (largely) communicate in a client-server relationship

CLIENT/SERVER CODE

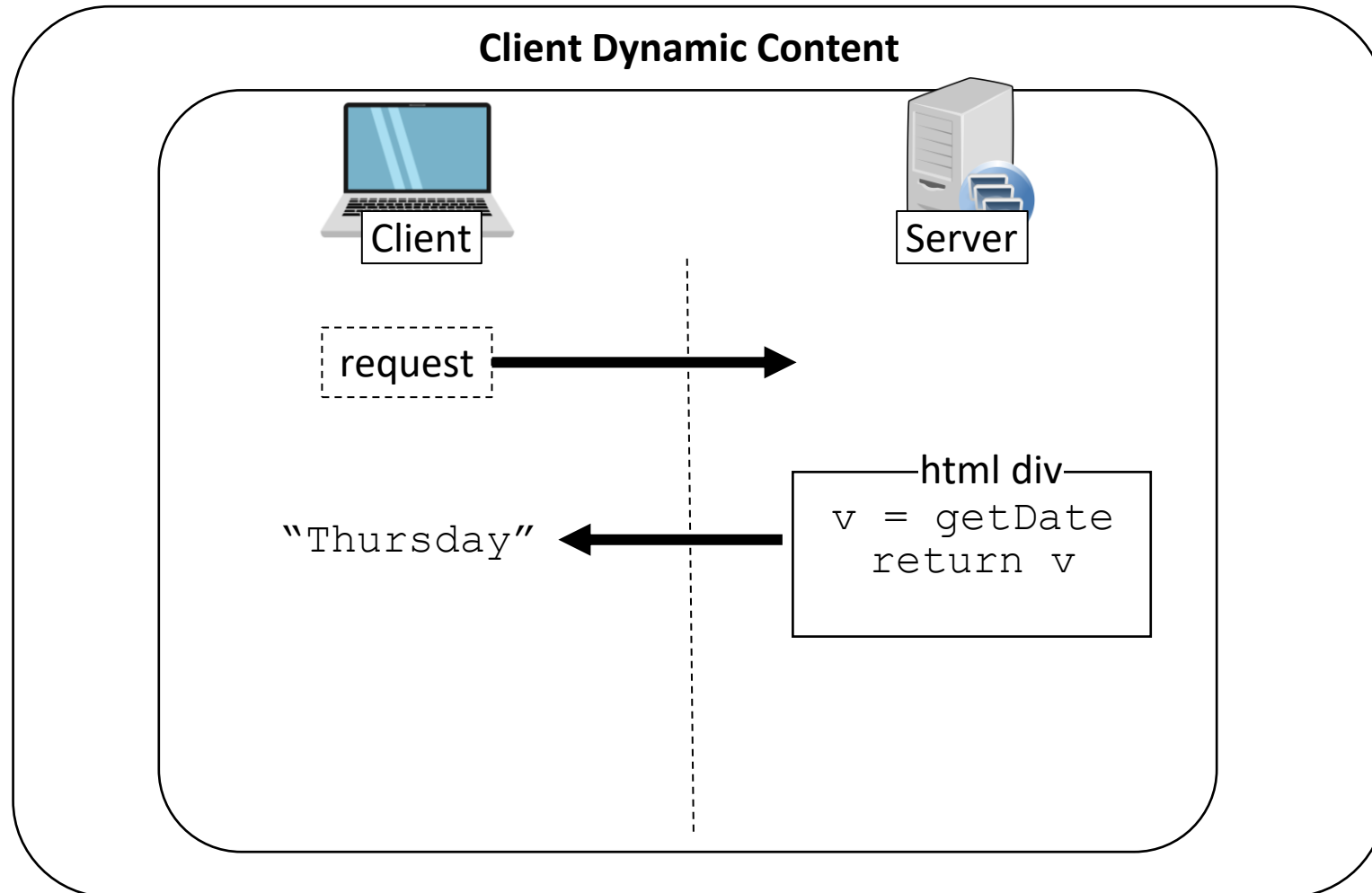
OVERVIEW

```
vim Desktop/index.html  
firefox Desktop/index.html
```



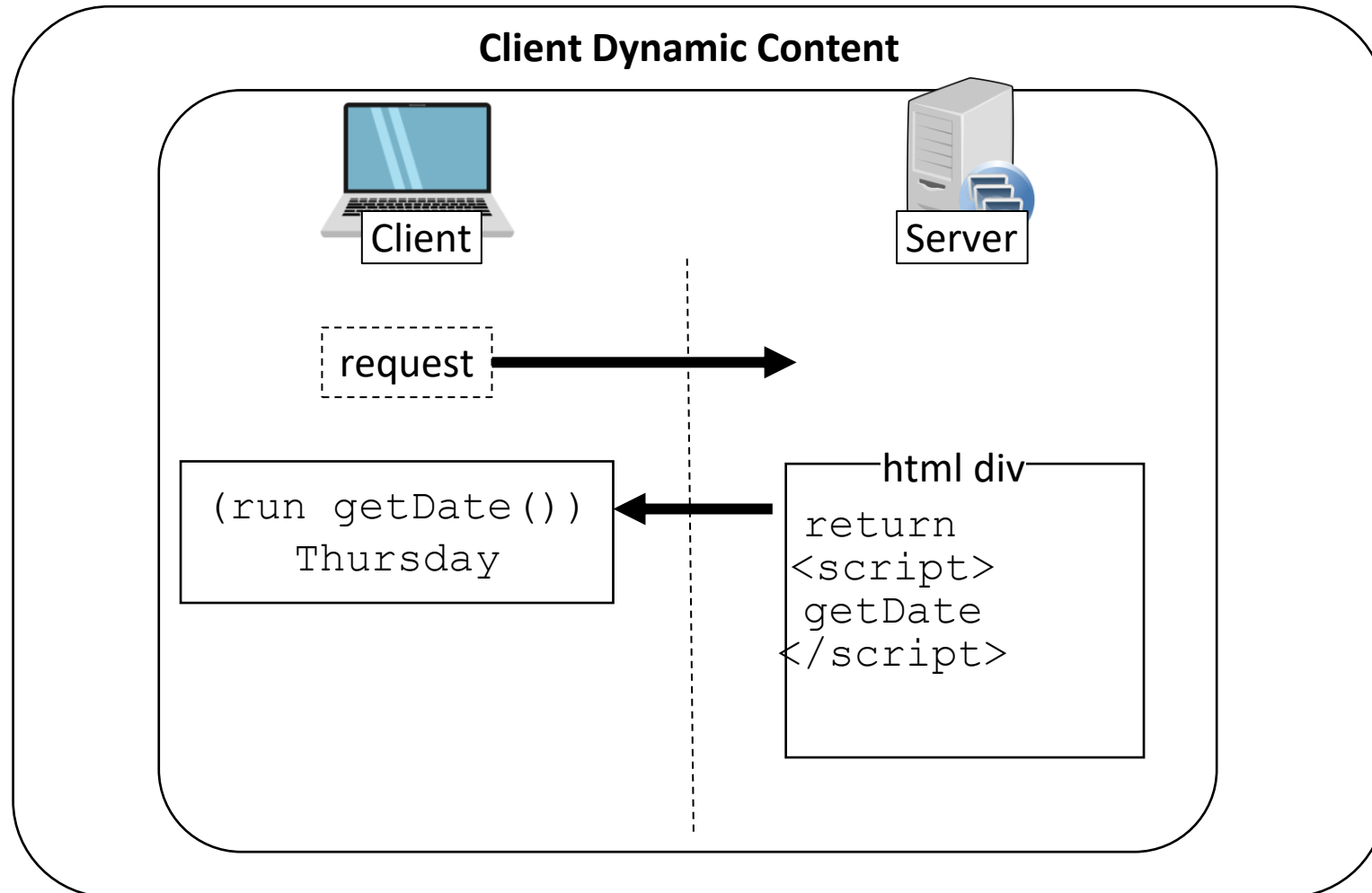
CLIENT/SERVER CODE

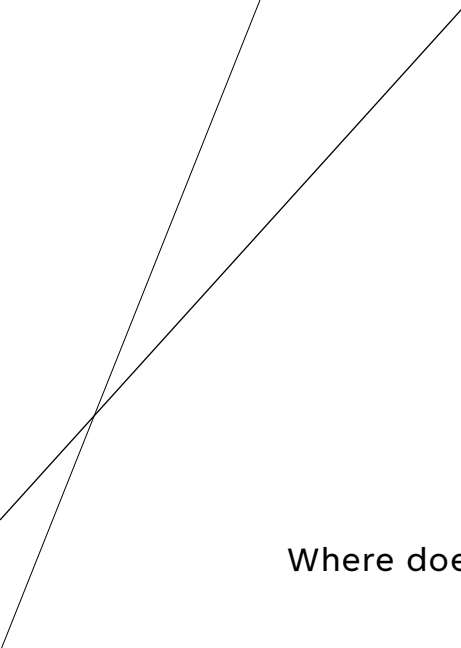
OVERVIEW



CLIENT/SERVER CODE

OVERVIEW





CODE VS CONTENT

OVERVIEW

Where does the code get executed?

On the client?

On the server?

USER INTERACTION

OVERVIEW

How can a user influence the code being run?



`https://google.com?coolVar=2`



```
print $_GET['coolVar']
```

CODE AS CONTENT

OVERVIEW

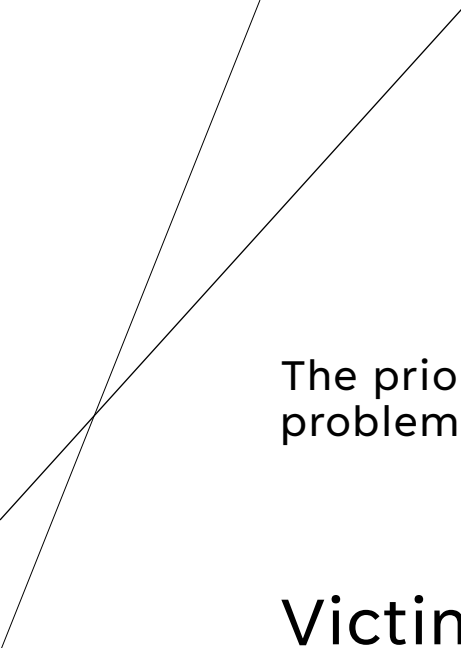
What happens when a user gives CODE in a content field?



`https://google.com?coolVar=<script>alert('hello')</script>`



`print $_GET['coolVar']`



MALICIOUS INTENT

OVERVIEW

The prior demo isn't really "harmful", but it is the basic concept underlying many problems on the internet

Victim client, malicious server

Malicious client, victim server

Malicious client 1, victim client 2, vector server

WHY ATTACK VIA THE WEB?

OVERVIEW

Spam

- Sent from legitimate IP address, less likely to be blocked

Denial of service

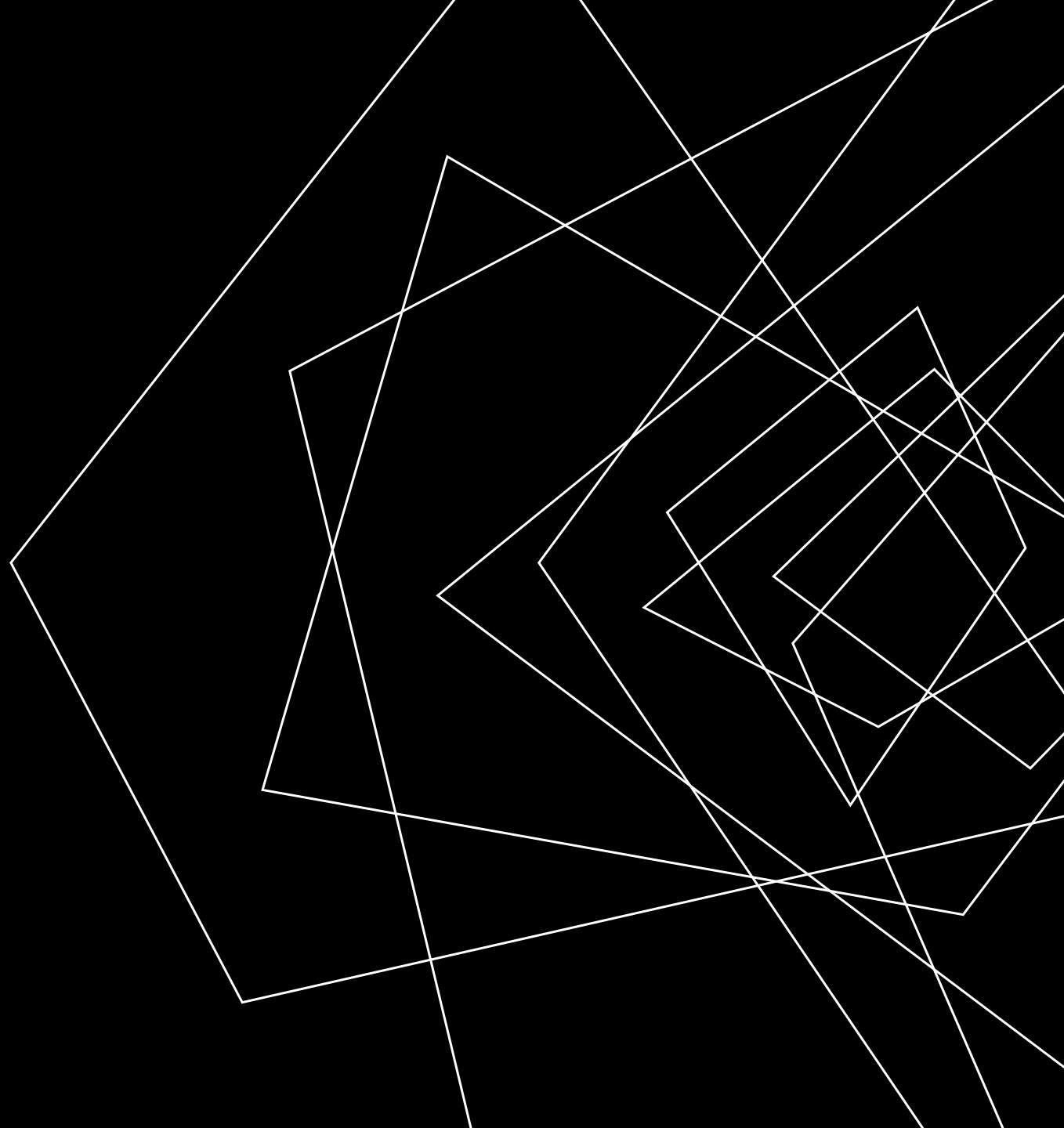
- Attack competitors, or seek ransom

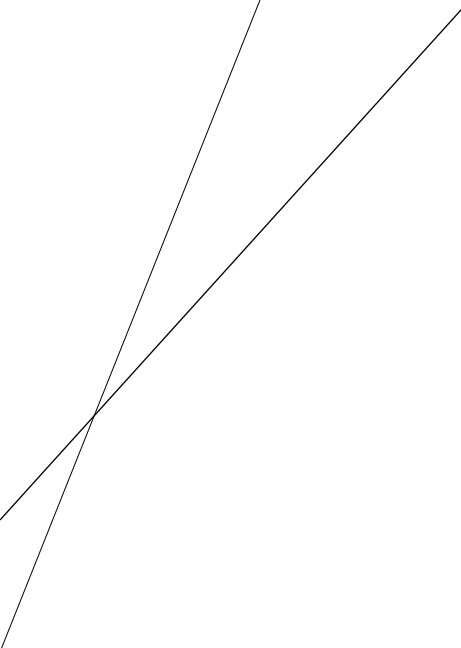
Data theft

- Steal credentials, credit card numbers, intellectual property

LECTURE OUTLINE

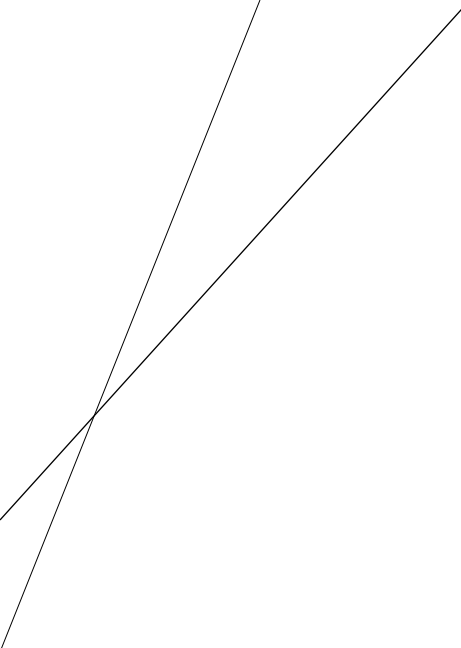
- Overview
- Motivation





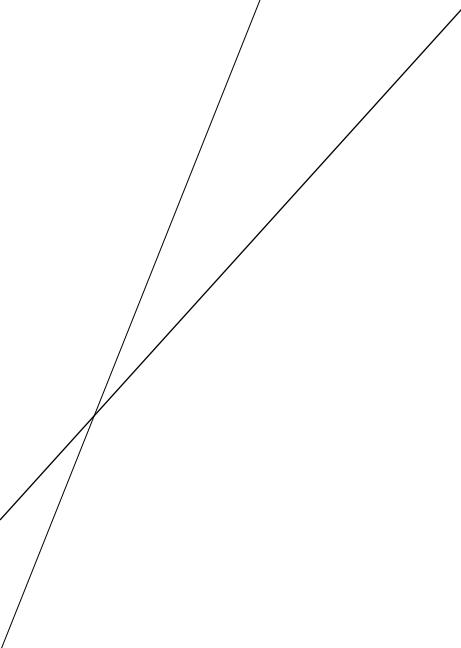
RANSOMWARE

OVERVIEW



CRYPTOMINERS

OVERVIEW

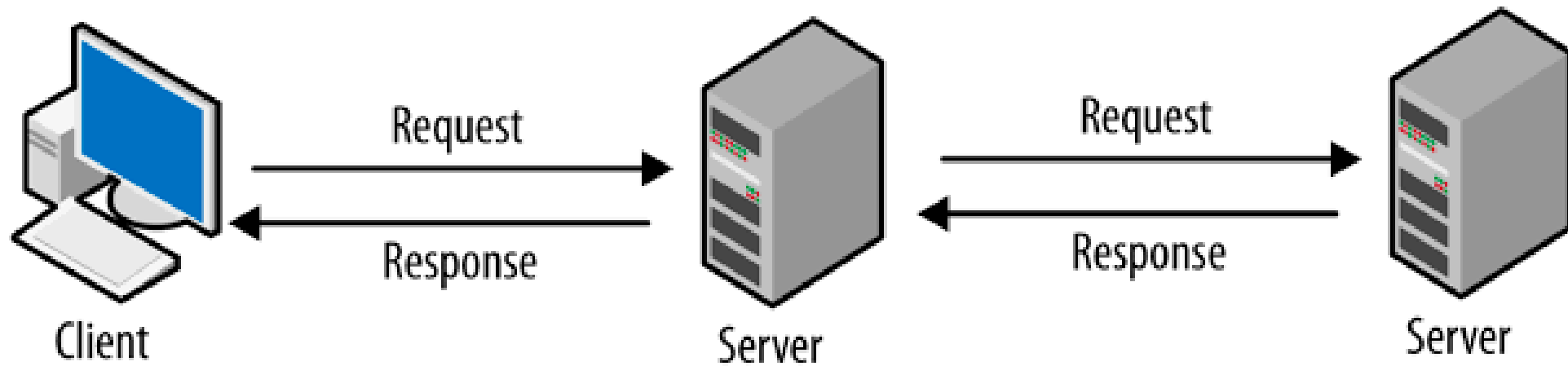


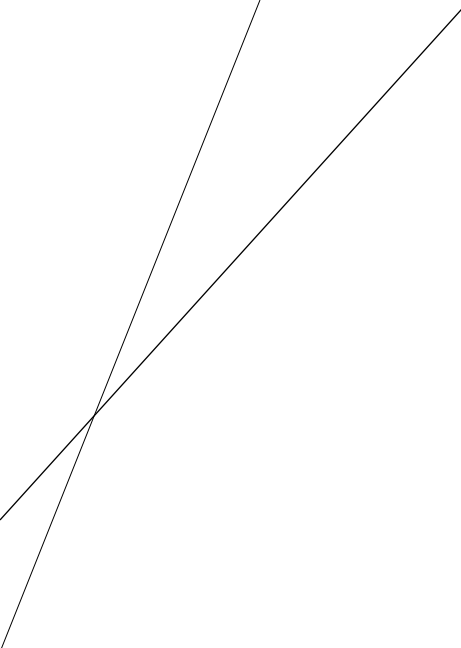
POLITICAL REASONS

OVERVIEW

THE INTERCONNECTED WEB

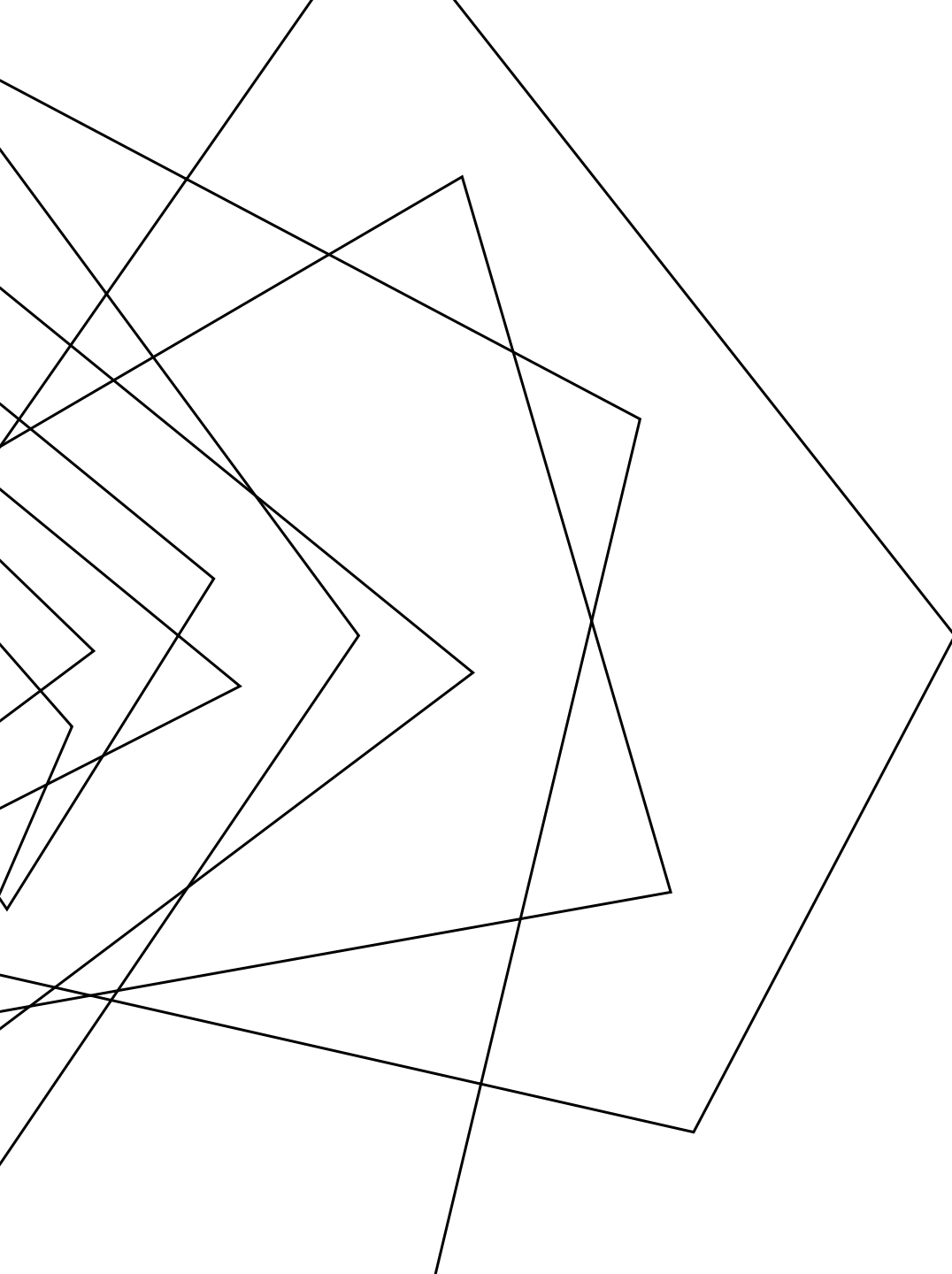
OVERVIEW



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HTML SRC AND INCLUDES

OVERVIEW



LECTURE END!

*DESCRIBED SOME OF THE ISSUES AND FIXES
FOR DATAFLOW IN THE PRESENCE OF LOOPS*