

This is CS50

w.youtube.com/watch?v=
(mw

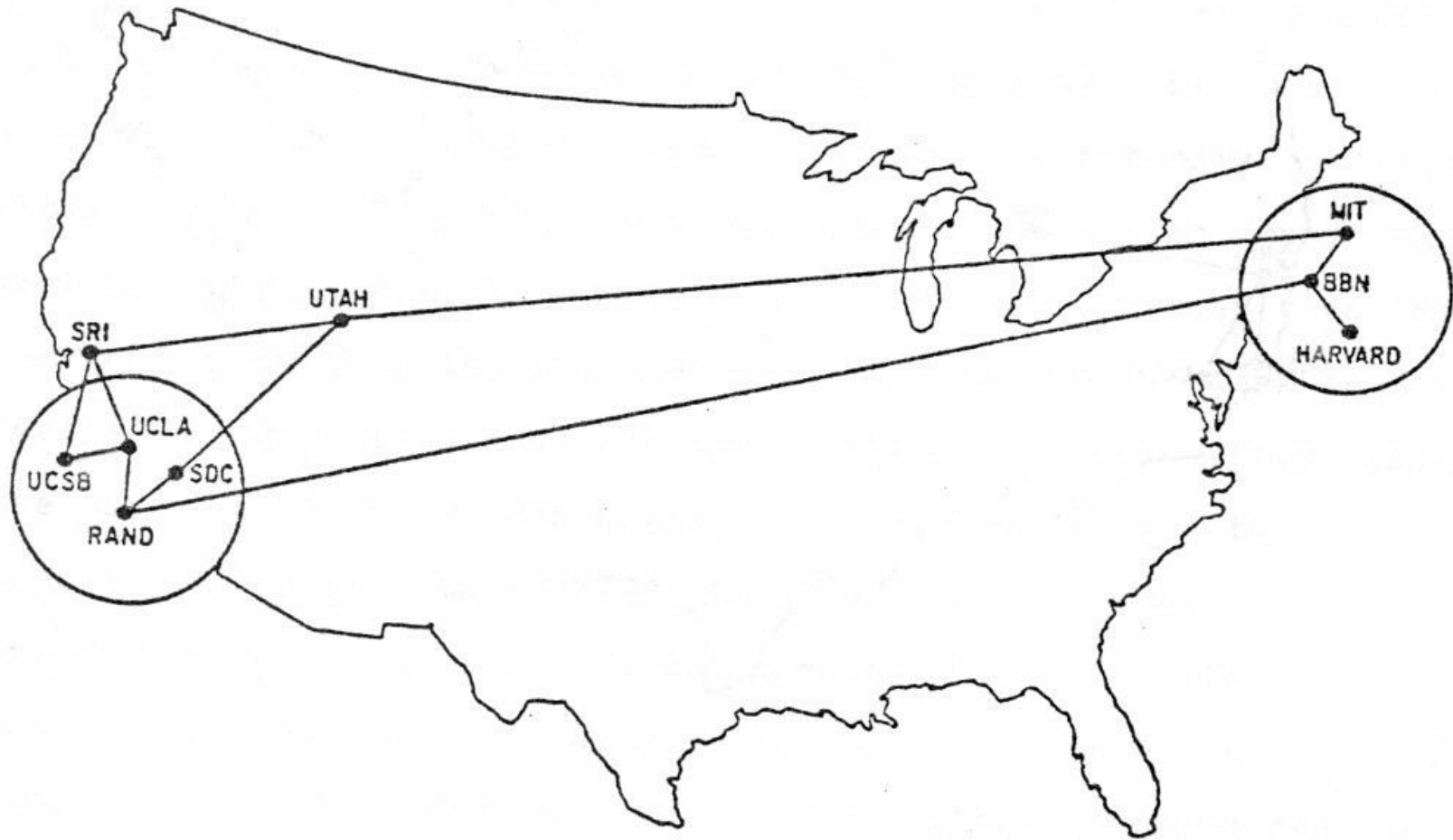
"What do you think of Yale?"



internet



The ARPANET in December 1969



routers

A grid of 20 video call windows, each showing a different participant. The participants are arranged in a 4x5 grid. Each window has a name label at the bottom. The participants are: Brian Yu, Guy E White, Dr Flanko Setufo N..., Alison Xin, Shreyas Iyer, Moshe Polak, Yoel Hava, Taylor Kruse, Helen Cho, Jonny Zhang, Josh Archibald, Ashley Zhuang, Caroline Abel, Sophie Edouard, Moni Radev, Jonathan Yuan, Albert Zhu, Helen Mehrensab, Joshua Ng, Montague Mawere, Matt Thomas Fauly, Soham Noor, Maria Guramam, Patrick Song, and Phyllis Zhang.

Brian Yu

Guy E White

Dr Flanko Setufo N...

Alison Xin

Shreyas Iyer

Moshe Polak

Yoel Hava

Taylor Kruse

Helen Cho

Jonny Zhang

Josh Archibald

Ashley Zhuang

Caroline Abel

Sophie Edouard

Moni Radev

Jonathan Yuan

Albert Zhu

Helen Mehrensab

Joshua Ng

Montague Mawere

Matt Thomas Fauly

Soham Noor

Maria Guramam

Patrick Song

Phyllis Zhang



TCP/IP

IP

###.#

TCP

80 HTTP

443 HTTPS

...

DNS

Domain Name

IP Address

Fully Qualified Domain Name

IP Address

HTTP

HTTPS

<https://www.example.com>

<https://www.example.com/>

<https://www.example.com/path>

<https://www.example.com/file.html>

<https://www.example.com/folder/>

<https://www.example.com/folder/file.html>

<https://www.example.com/folder/file.html>

<https://www.example.com/folder/file.html>

<https://www.example.com/folder/file.html>

<https://www.example.com/folder/file.html>

<https://www.example.com/folder/file.html>

GET

POST

...

GET / HTTP/1.1

Host: www.example.com

...

HTTP/1.1 200 OK

Content-Type: text/html

...

GET /search?q=cats HTTP/1.1

Host: www.google.com

...

HTTP/1.1 200 OK

Content-Type: text/html

...

GET / HTTP/1.1

Host: www.harvard.edu

...

HTTP/1.1 301 Moved Permanently
Location: <https://www.harvard.edu/>

...

HTTP/1.1 404 Not Found
Content-Type: text/html

...

200 OK
301 Moved Permanently
302 Found
304 Not Modified
307 Temporary Redirect
401 Unauthorized
403 Forbidden
404 Not Found
418 I'm a Teapot
500 Internal Server Error
503 Service Unavailable
...

GET / HTTP/1.1

Host: safetyschool.org

...

ruse

Zoom

Helen Cho

Jonny Zhang



Abel



Sophie Edouard



Moni Radev



ehreteab



Joshua Ng



Montague Mawere







HTML

tags

attributes

```
<!DOCTYPE html>
```

```
<html lang="en">
```

```
  <head>
```

```
    <title>
```

```
      hello, title
```

```
    </title>
```

```
  </head>
```

```
  <body>
```

```
    hello, body
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  </body>
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</html>
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http-server

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<!DOCTYPE html>
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<html lang="en">
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  <head>
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    </title>
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  </head>
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  <body>
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  </body>
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</html>
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```

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  </body>
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</html>
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```
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```
<html lang="en">
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  <head>
```

```
    <title>
```

```
      hello, title
```

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    </title>
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  </head>
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  <body>
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    hello, body
```

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  </body>
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</html>
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<!DOCTYPE html>
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```
<html lang="en">
```

```
  <head>
```

```
    <title>
```

```
      hello, title
```

```
    </title>
```

```
  </head>
```

```
  <body>
```

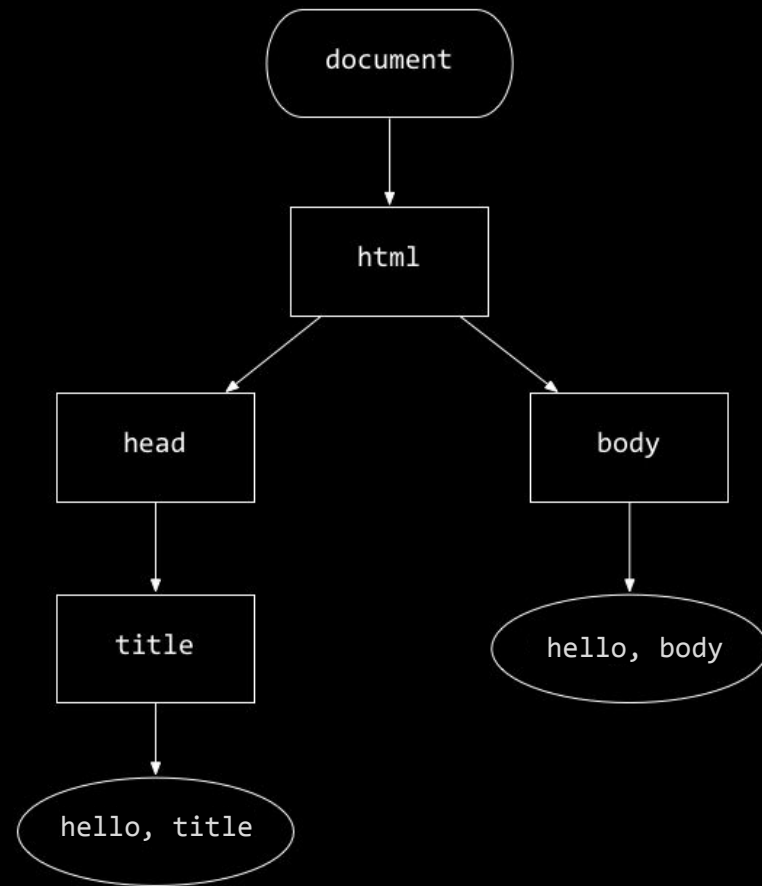
```
    hello, body
```

```
  </body>
```

```
</html>
```

```
<!DOCTYPE html>

<html lang="en">
  <head>
    <title>
      hello, title
    </title>
  </head>
  <body>
    hello, body
  </body>
</html>
```



<https://www.example.com>

<https://www.example.com/path?key=value>

<https://www.example.com/path?key=value&key=value>

<https://www.example.com/path>

<https://www.example.com/path?key=value>

GET /search?q=cats HTTP/1.1

Host: www.google.com

...

CSS

properties

type selector

class selector

ID selector

attribute selector

...

```
<!DOCTYPE html>
```

```
<html lang="en">
```

```
  <head>
```

```
    <title>
```

```
      hello, title
```

```
    </title>
```

```
  </head>
```

```
  <body>
```

```
    hello, body
```

```
  </body>
```

```
</html>
```

```
<!DOCTYPE html>
```

```
<html lang="en">
```

```
  <head>
```

```
    <style>
```

```
  </style>
```

```
  <title>
```

```
    hello, title
```

```
  </title>
```

```
</head>
```

```
<body>
```

```
  hello, body
```

```
</body>
```

```
</html>
```

```
<!DOCTYPE html>
```

```
<html lang="en">
```

```
  <head>
```

```
    <link href="styles.css" rel="stylesheet">
```

```
    <title>
```

```
      hello, title
```

```
    </title>
```

```
  </head>
```

```
  <body>
```

```
    hello, body
```

```
  </body>
```

```
</html>
```

frameworks

Bootstrap

getbootstrap.com

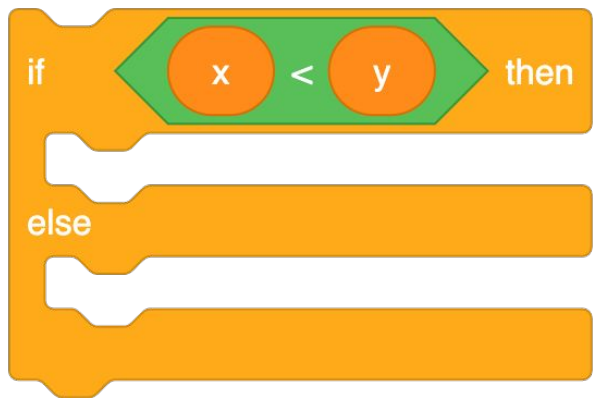
JavaScript

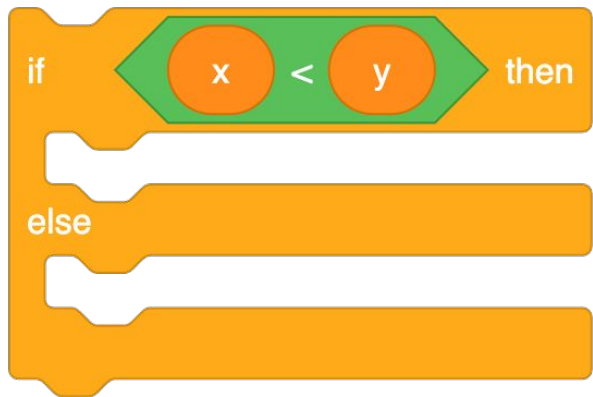
conditionals





```
if (x < y)
{
}
}
```





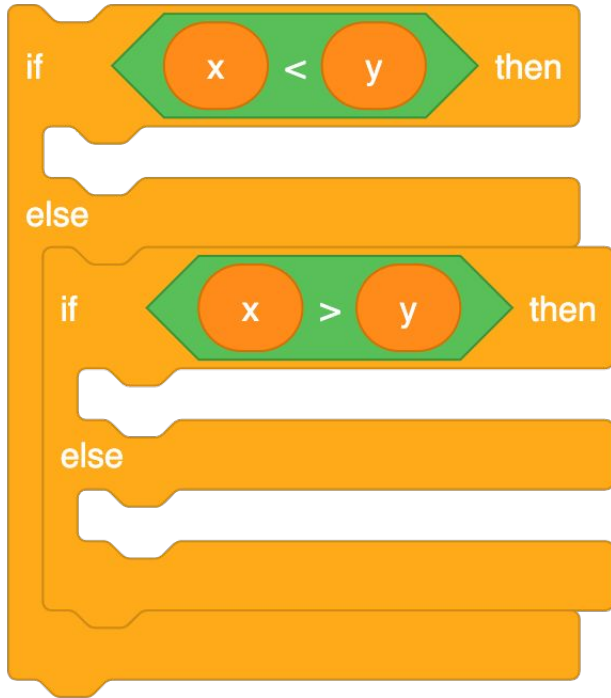
```
if (x < y)
{
}
else
{
}
```


if $x < y$ then

else

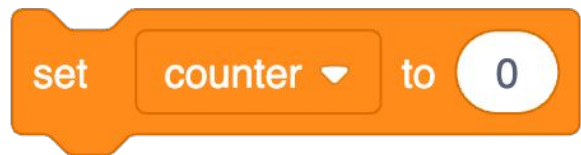
if $x > y$ then

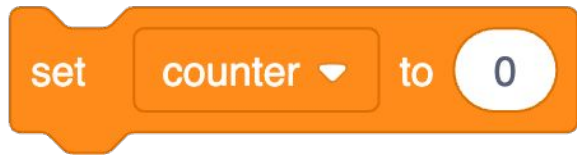
else



```
if (x < y)
{
}
else if (x > y)
{
}
else
{
}
```

variables





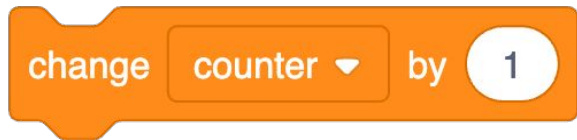
```
let counter = 0;
```

change

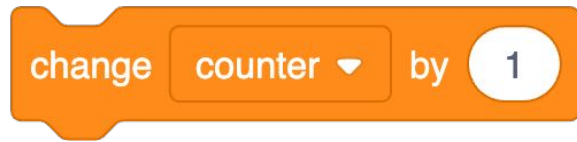
counter ▼

by

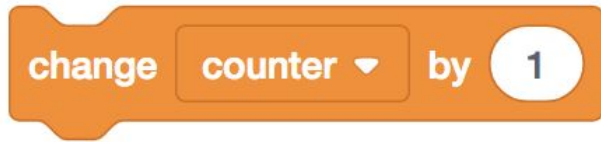
1



```
counter = counter + 1;
```

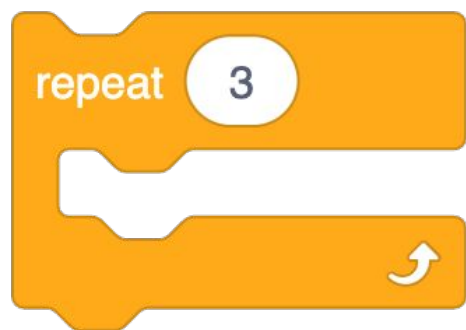


```
counter += 1;
```

```
counter++;
```

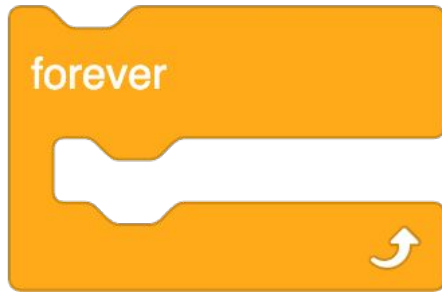
loops





```
for (let i = 0; i < 3; i++)  
{  
  
}  
}
```





```
while (true)
{
}
```

```
<!DOCTYPE html>
```

```
<html lang="en">
```

```
  <head>
```

```
    <title>
```

```
      hello, title
```

```
    </title>
```

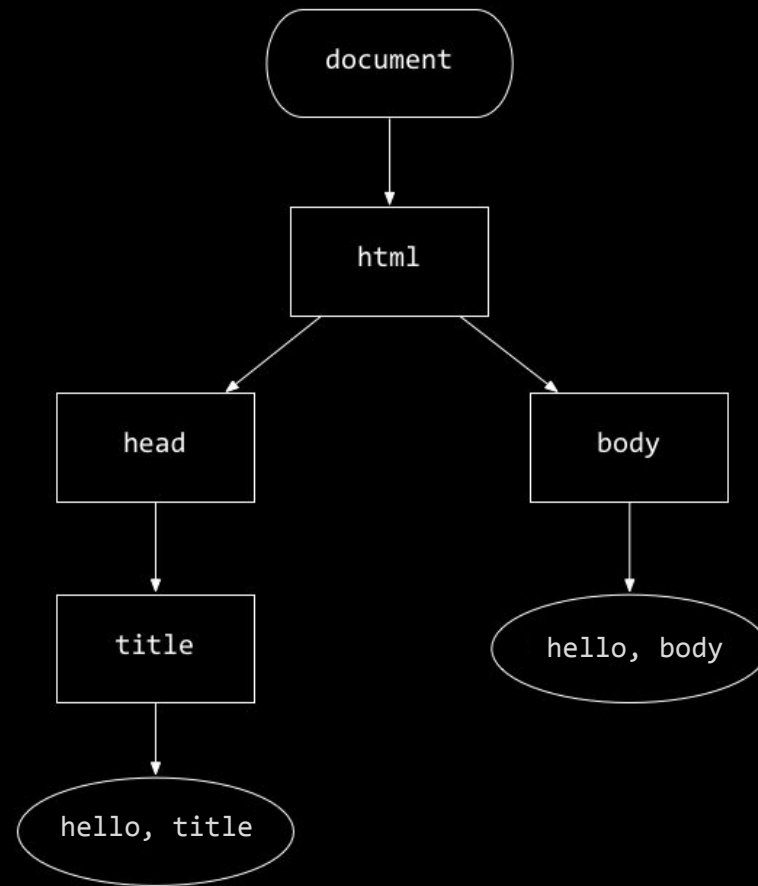
```
  </head>
```

```
  <body>
```

```
    hello, body
```

```
  </body>
```

```
</html>
```



blur
change
click
drag
focus
keyup
load
mousedown
mouseover
mouseup
submit
touchmove
unload
...



This is CS50