

# <html> (adv.)

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TJ Dev Club



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# Quick Basic HTML Refresher

---

- Markup language, little logic, little styling
  - NOT A PROGRAMMING LANGUAGE!!!
- Forms the structure of the website
- <tags> and stuff

```
<!doctype html>
<html>
  <head>
    <!-- metadata (e.g., title, seo stuff) -->
  </head>
  <body>
    <!-- actual content of page (e.g., text, headers, images, you name it!) -->
  </body>
</html>
```



# Basic text

---

- Headers (increase in number, decrease in size): `<h[num]>`
- Paragraphs: `<p>`
- Bold and italic: `<strong>` and `<em>`

```
<h1>Heading 1</h1>
<h2>Heading 2</h2>
<h3>Heading 3</h3>
<h4>Heading 4</h4>
<h5>Heading 5</h5>
<h6>Heading 6</h6>
<p>This <strong>is</strong> <em>a</em> paragraph</p>
<p>Auto line breaks after paragraph</p>
```



# Example HTML Page

---

```
<!doctype html>
<html>
  <head>
    <title>WELCOME TO DEV CLUB BLOG</title>
  </head>
  <body>
    <h1>Dev Club Blog</h1>
    <p>a developers dream!</p>
    <br />
    <h2>why i hate pigeons</h2>
    <h4>bv dev club officers</h4>
```



# <div>

---

Basic general use element for **blocks** (not inline!). Wrapping, making a box, menus, whatever needs to be a block.

```
Blah blah blah blah  
<div style="border: solid">Box. Not inline.</div>  
blah blah blah blah.
```



## <span>

---

General use inline element, doesn't make any changes to the element but can be used to apply classes, animations, or anything else you want.

```
Only highlight what is  
<span style="border: solid">most important</span>  
in your notes
```



# <link>

---

- Used to link external resources (e.g., CSS files) or favicons
- Placed in the `<head>` section

```
<head>
  <!-- External CSS file -->
  <link rel="stylesheet" href="styles.css" />

  <!-- Favicon -->
  <link rel="icon" href="/favicon.ico" />
</head>
```





# <details> and <summary>

---

## Dropdowns

```
<details>
  <!-- Summary is what you click on -->
  <summary>Pigeon information</summary>

  <!-- Content that is only shown when you click on the summary -->
  <p>
    Pigeons are contentious aircraft. Some people believe they are spies for the
    government. Others believe they are animals.
  </p>
</details>
```



# <details> and <summary>

---

Open attribute lets it be open initially

```
<details open>
  <!-- Summary is what you click on -->
  <summary>Pigeon information</summary>

  <!-- Content that is only shown when you click on the summary -->
  <p>
    Pigeons are contentious aircraft. Some people believe they are spies for the
    government. Others believe they are animals.
  </p>
</details>
```



# <abbr>

---

Use for abbreviations. Helps with accessibility and screen readers

```
The report was published by <abbr title="National Public Radio">NPR</abbr>.
```



# <meta>

---

Various uses:

- **Metadata**
- Instructions for browser
- Search Engine Optimization (SEO)
- HTTP header simulation

```
<meta charset="utf-8">  
<meta name="viewport" content="width=device-width, initial-scale=1">
```



## <meta name="viewport">

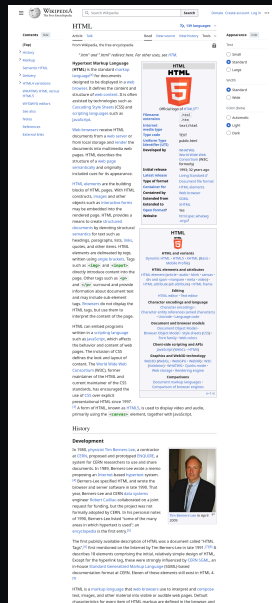
---

- Mobile devices tend to act weird (thanks iOS 28)
- Usually mobile devices pretend that their screen is really big, then zoom everything out so the entire page can be seen
- Why? Many (old) sites don't optimize for mobile, so they only look good on large screens.



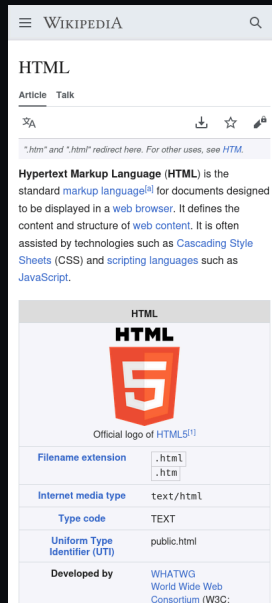
# <meta name="viewport">

On a mobile device, because everything is so small, the user must manually zoom in (very bad UX!). Can you even read anything on this page?



# <meta name="viewport">

This is what we want. By including `<meta name="viewport">`, mobile devices don't automatically zoom out and our website looks a *lot* nicer.



# <meta name="viewport">

---

Now that I know about `<meta name="viewport">`, how can I use it?

```
<head>
  <meta name="viewport" content="width=device-width, initial-scale=1.0" />
  <!-- no end tag -->
  <!-- other metadata and stuff -->
</head>
```

Set `width` to `device-width`. `width` means VIRTUAL VIEWPORT width

Set `initial-scale` to `1.0`. `scale` means ZOOM level, 1.0 means no zoom in or out





# Search Engine Optimization (SEO)

---

- When you try to find a website, where do you usually go first?
  - **SEARCH ENGINES!!!**
  - Higher ranking on search engines = more impressions
- How do we get our website to show up first? This is what SEO is for!
  - Making our websites attractive to search engine algorithms
  - How do we rank first on Google?



# What Search Engines Look For

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- Keywords (title, description, tags)
- Images to show the end user
- High quality content/backlinks

How do we make this information accessible to search engines? **Metadata!**



# Example SEO Head

---

These tags should be in every HTML site you create!

```
<head>
  <meta charset="utf-8">
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <title>Best Hiking Trails in Northern Virginia</title>
  <meta name="description" content="Discover top hiking trails in NoVA with maps.">
  <meta
    name="keywords"
    content="hiking, northern virginia, trails, maps, travel"
  />

  <meta property="og:title" content="Best Hiking Trails in Northern Virginia">
  <meta property="og:description" content="Top routes, maps, and tips for every hiker.">
  <meta property="og:image" content="https://example.com/images/nova-hikes.jpg">
  <meta property="og:url" content="https://example.com/hiking/northern-virginia">
</head>
```



# Example SEO Head

---

The title on your website is **VERY IMPORTANT!!!**

```
<head>
  <meta charset="utf-8">
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <title>Best Hiking Trails in Northern Virginia</title>
  <meta name="description" content="Discover top hiking trails in NoVA with maps.">
  <meta
    name="keywords"
    content="hiking, northern virginia, trails, maps, travel"
  />

  <meta property="og:title" content="Best Hiking Trails in Northern Virginia">
  <meta property="og:description" content="Top routes, maps, and tips for every hiker.">
  <meta property="og:image" content="https://example.com/images/nova-hikes.jpg">
  <meta property="og:url" content="https://example.com/hiking/northern-virginia">
</head>
```



# Example SEO Head

---

`<meta name="description">` and `<meta name="keywords">` describe your site, so putting useful keywords in here is **very important**.

```
<head>
  <meta charset="utf-8">
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <title>Best Hiking Trails in Northern Virginia</title>
  <meta name="description" content="Discover top hiking trails in NoVA with maps.">
  <!-- this is used for search engine keywords, so definitely do this!!! (comma separated) -->
  <meta
    name="keywords"
    content="hiking, northern virginia, trails, maps, travel"
  />

  <meta property="og:title" content="Best Hiking Trails in Northern Virginia">
  <meta property="og:description" content="Top routes, maps, and tips for every hiker.">
  <meta property="og:image" content="https://example.com/images/nova-hikes.jpg">
  <meta property="og:url" content="https://example.com/hiking/northern-virginia">
</head>
```



# Example SEO Head

---

OpenGraph (og): control the embeds on messaging and social media platforms.  
Descriptive image ==> More clicks

```
<head>
  <meta charset="utf-8">
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <title>Best Hiking Trails in Northern Virginia</title>
  <meta name="description" content="Discover top hiking trails in NoVA with maps.">
  <meta
    name="keywords"
    content="hiking, northern virginia, trails, maps, travel"
  />

  <meta property="og:title" content="Best Hiking Trails in Northern Virginia">
  <!-- description of your site... pretty self explanatory -->
  <meta property="og:description" content="Top routes, maps, and tips for every hiker.">
  <!-- Image people see. Must be absolute URL, hosted on either your server or a CDN -->
  <meta property="og:image" content="https://example.com/images/nova-hikes.jpg">
  <!-- permanent URL of your site... should be static! -->
  <meta property="og:url" content="https://example.com/hiking/northern-virginia">
</head>
```



No Open Graph tags, super boring.



bryce c.

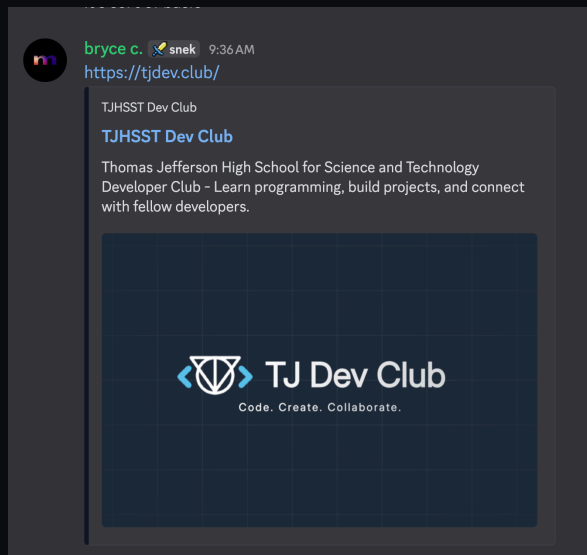


snek

9:35 AM

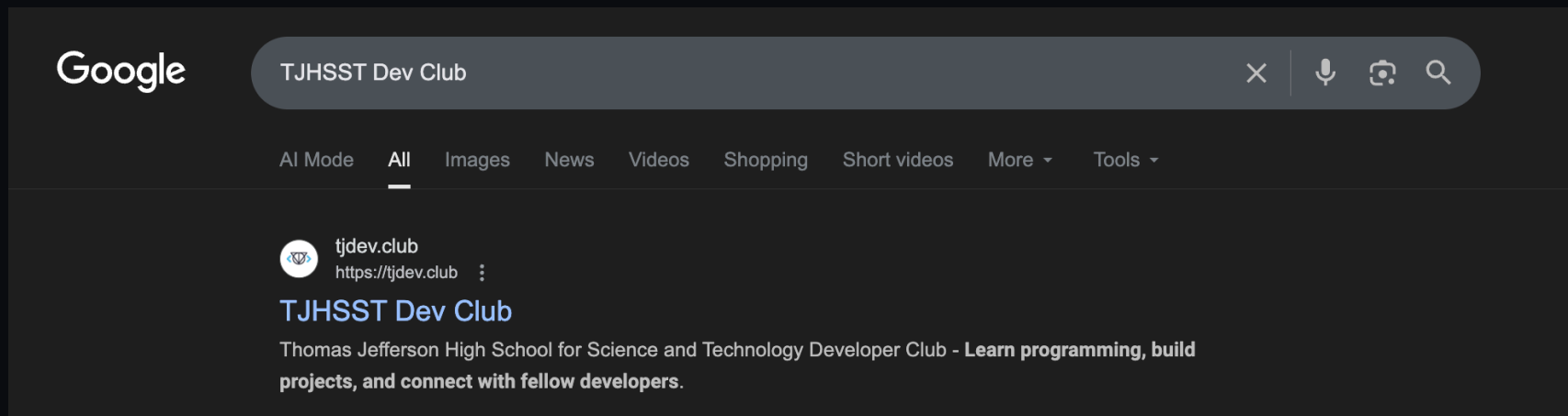
<https://tjdev.club/>

OG tags gives us a nice preview!





name="description" controls the small text snippet



# Components

---

- New concept that allow us to go beyond plain HTML
- Extensive use in JS libraries
  - Not just limited to JS (e.g., Python w/ Jinja)
- Reusable HTML templates with some logic



# Components Example

---

Repeating ourselves a lot, and gets annoying to type all of these, cluttered websites

```
<div style="border: solid">  
  <button>x</button>  
  <p>Finish HW</p>  
  <p>  
    Labels:  
    <span style="background-color: red; color:white">most important</span>  
    <span style="background-color: blue; color:white">school</span>  
  </p>  
</div>
```

```
<div style="border: solid">
```



# Components Example

---

What if, single tag, makes us a task box with button and styles everything?

```
DEFINE <Task> WITH ATTRIBUTES text, labels AS
  <div style="border: solid">
    <button>x</button>
    <p>{text}</p>
    <p>
      Labels: {labels}
      <span style="background-color: gray; color:white">{label}</span>
    </p>
  </div>
END DEFINITION
```

```
<Task text="Finish HW" labels="most important, school" />
<Task text="Work on website" labels="coding" />
```



# Mini-project

---

- Setup a Director site (static) w/ an officer
- Nobody wants to look at my site
- Optimize the site for mobile (viewport meta), and SEO (meta tags)

Shell Code -> <https://tinyurl.com/tjdevclub-shell-12>



**</lecture>**

