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# CSS Custom Properties

**What are they, how can they be used,  
and what are the key use cases?**

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# What are they?

Custom Properties are dynamic (they can be changed) variables which can be used in CSS for color, layout, font size and style and many other features.

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# What are they?

Custom Properties allow a large amount of flexibility when using CSS Styles. We can reference a CSS value multiples times throughout the document.

They must be used within a selector and start with two dashes like this --

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# How are they used? - Getting Started

```
element {  
  --main-bg-color: brown;  
}
```

To use a custom CSS property you declare it using the syntax which can be seen in the above picture. Declaring it with the use of --nameofvariable and then inputting your style.

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# Getting to the Root of things.

```
:root {  
  --main-bg-color: brown;  
}
```

It is common practice to place most of your custom properties inside of `:root` pseudo element. This is because the root element encompasses the whole of your HTML document.



**Here is a demonstration**

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# Different Methods of Use

## Root of Document

```
:root {  
  --main-bg-color: brown;  
}
```

```
.one {  
  color: white;  
  background-color: var(--main-bg-color);  
  margin: 10px;  
  width: 50px;  
  height: 50px;  
  display: inline-block;  
}
```

```
.two {  
  color: white;  
  background-color: black;  
  margin: 10px;  
  width: 150px;  
  height: 70px;  
  display: inline-block;  
}
```

...

# ...Continued

## Within Elements

```
button span {  
  color: var(--colour-primary);  
}  
  
@media (min-width: 768px) {  
  button {  
    --colour-primary: #0000ff;  
  }  
}
```



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# What are they?

Entities defined by coders that contain specific values to be reused throughout document.

# Why are they unique?

CSS custom properties are visible to the DOM.

Whereas SASS (Syntactically Awesome Style Sheets) variables stop existing after the compiling process (when source code is converted into object code).

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# ...Continued

They allow us to create our own custom values, making the code easier to comprehend and simpler to go back and edit - less code to sift through.

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# What are the key use cases?

## Font Sizes

```
:root{
  --scale1: 1.125; /*define scale for small screens*/
  --scale2: 1.414; /*scale for large screens*/
}

h5{
  /*set the smaller font-size*/
  font-size: calc(var(--scale1) * var(--scale1) * 1em);
}

@media screen and (min-width: 60em){
  /*inside a mediaquery, set the font-size for larger screens*/
  h5{
    font-size: calc(var(--scale2) * var(--scale2) * 1em);
  }
}
```

# Key Use Cases...Continued

## Colour

All h2's will be the colour red, apart from any h2's that are in article as the variable states a different colour, which is blue

```
:root {
  --color-danger: red;
}

h2 {
  color: var(--color-danger);
}

article {
  --color-love: #0000FF;
}
```

...

# What are there key use cases?

## Layout- Overall Structure

You can use Custom Properties, with grid.

## Layout- Fine Tuning

This includes margin, padding border.

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# Bringing this together

## RESPONSIVE PAGE LAYOUT

```
:root {
  --small-spacing: 0.5rem;
  --large-spacing: 1rem;
  --large-font-size: 2rem;
}

@media (min-width: 576px) {
  :root {
    --small-spacing: 1rem;
    --large-spacing: 2rem;
    --large-font-size: 3rem;
  }
}

.post {
  padding: var(--small-spacing) var(--large-spacing);
  margin: var(--small-spacing) auto var(--large-spacing);
}

.heading {
  font-size: var(--large-font-size);
}
```

...

# You can also...

WEBSITES WITH DIFFERENT COLOR THEMES

```
1 ▾ :root.dark {  
2   --border-btn: 1px solid rgb(220, 220,  
3     220);  
4   --color-base-bg: rgb(18, 18, 18);  
5   --color-base-text: rgb(240, 240, 240);  
6   --color-btn-bg: rgb(36, 36, 36);  
7 }  
8 ▾ :root.light {  
9   --border-btn: 1px solid rgb(36, 36, 36);  
10  --color-base-bg: rgb(240, 240, 240);  
11  --color-base-text: rgb(18, 18, 18);  
12  --color-btn-bg: rgb(220, 220, 220);  
13 }
```

...

# Summary - What they do

## They Store information

Custom CSS Properties allow you to store style information font size, color, padding etc inside variables which you can then use throughout your CSS.

## They change dynamically

You can change them on the fly, both in terms of name of the variable and the styling information that it contains.



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# Summary- Key Benefits/Use Cases

Overall, CSS custom properties are a great way to make your code leaner - reducing file size. Also more efficient to edit at later stages resulting in less time and effort spent.

This efficiency is beneficial when trying to build a fully responsive design. Even more so when you combine Custom Properties with functions such as Calc.

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# Summary- Key Benefits/Use Cases

This efficiency can also help with any form of design which you want to be customisable and where you need flexibility, such as dark and light modes on a website.

*Thank  
you!*