**CSS preprocessor**

A **preprocessor**  is a program that takes one type of data and converts it to another type of data.

**CSS preprocessor** is basically a**scripting language that extends CSS**and then**compiles it into regular CSS.**

In the case of **CSS** Sass and less is processed into  **CSS**.

**Mainly using CSS preprocessor**

1. **Less**
2. **Sass**

**Sass (Syntactically Awesome StyleSheets)**

Sass (Syntactically Awesome StyleSheets)is a **CSS** pre-processor, that extends the **CSS** language by adding features like variables, mixins, functions, nested rules, selector inheritance.

**Sass has two syntaxes.**

**Scss** (Sassy ) – with brackets and semicolons. Extension is .scss .

**Sass** - follow the indentation of lines. Extension is .sass.

Sass and scss are same in concept but syntax is different.

**Installation**

* 1. npm install gulp-angular2-embed-sass --save-dev
  2. npm install gulp
  3. npm install
  4. npm start -- --scss

**Variables**

|  |  |
| --- | --- |
| **Scss**  $primary-color: #3bbfce;  $margin: 16px;  **.content-navigation** {  **border-color**: $**primary-color**;  **color**: **darken**($**primary-color**, **10**%);  }  **.border** {  **padding**: $**margin** / **2**;  **margin**: $**margin** / **2**;  **border-color**: $**primary-color**;  } | **Css**  .**content-navigation** {  **border-color**: #3bbfce;  **color**: #2b9eab;  }  .**border** {  **padding**: 8px;  **margin**: 8px;  **border-color**: #3bbfce;  } |

**Nesting**

|  |  |
| --- | --- |
| **Scss**  **table.hl** {  **margin**: **2em** **0**;  **td.ln** {  **text-align**: **right**;  }  }  **li** {  **font**: {  **family**: **serif**;  **weight**: **bold**;  **size**: **1.3em**;  }  } | **Css**  **table**.**hl** {  **margin**: 2em 0;  }  **table**.**hl** **td**.**ln** {  **text-align**: **right**;  }  **li** {  **font-family**: **serif**;  **font-weight**: **bold**;  **font-size**: 1.3em;  } |

**Loops**

|  |  |
| --- | --- |
| **Scss**  $squareCount: 3  **@for** $i **from** 1 **through** $squareCount  **#square-#{**$i**}**  background-color: **red**  width: 50px \* $i  height: 120px / $i | **Css**  #**square-1** {  **background-color**: **red**;  **width**: 50px;  **height**: 120px;  }  #**square-2** {  **background-color**: **red**;  **width**: 100px;  **height**: 60px;  }  #**square-3** {  **background-color**: **red**;  **width**: 150px;  **height**: 40px;  } |

**Selector inheritance**

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| --- | --- |
| **Scss**  **.error**  border: 1px #f00  background: #fdd  **.error.intrusion**  font-size: 1.3em  font-weight: bold  **.badError**  **@extend** **.error**  border-width: 3px | **Css**  .**error**, .**badError** {  **border**: 1px #f00;  **background**: #fdd;  }  .**error**.**intrusion**,  .**badError**.**intrusion** {  **font-size**: 1.3em;  **font-weight**: **bold**;  }  .**badError** {  **border-width**: 3px;  } |

**Mixins**

|  |  |
| --- | --- |
| **Scss**  **@mixin** table-base {  **th** {  **text-align**: **center**;  **font-weight**: **bold**;  }  **td**, **th** {  **padding**: **2px**;  }  }  **#data** {  **@include** table-base;  } | **Css**  #**data** **th** {  **text-align**: **center**;  **font-weight**: **bold**;  }  #**data** **td**, #**data** **th** {  **padding**: 2px;  } |