Advanced SCDoc features

1. Formatting Text

1.1. Text

1.1.1. Quotation marks, quotation dash, ellipsis marks and apostrophe

The following quotation marks can be used to make SuperCollider help documents more reader-friendly and improve readability:

- SINGLE QUOTATION

code to show	result
`_ql'_`	‘
`_qr'_`	’

- DOUBLE QUOTATION

code to show	result
`_ql"_`	“
`_qr"_`	”

- QUOTATIOM DASH (dashHORIZONTAL BAR)

code to show	result
`_q-_`	—

- MIDLINE HORIZONTAL ELLIPSIS

code to show	result
`_me..._`	⋯

- HORIZONTAL ELLIPSIS

code to show	result

`_ue...._`	…

- MODIFIER LETTER APOSTROPHE

code to show	result
`_a''_`	’

Examples

- Andreas asked me: “Have you read the ‘EU Expansion’ article?”
- _e..._ Jack’s and Jill’s children
- _e..._ 잭과 질의 아이들

(— From Wikipedia article "Quotation mark ")

1.1.2. Alternative quotation marks

The following quotation marks can be used to make SuperCollider help documents more reader-friendly and improve readability:

- LOW-9 QUOTATION MARK

code to show	result
`_ll"_`	„
`_lr"_`	“

DOUBLE LOW-9 QUOTATION MARK

code to show	result
`_ll'_`	‚
`_lr'_`	‘

- POINTING ANGLE

code to show	result

_p<_	‹
_p>_	›

- POINTING DOUBLE ANGLE

code to show	result
_p<<_	«
_p>>_	»

- MATHEMATICAL ANGLE BRACKET

code to show	result
_m<_	〈
_m>_	〉

- MATHEMATICAL DOUBLE ANGLE BRACKET

code to show	result
_m<<_	《
_m>>_	》

- ANGLE BRACKET

  If these symbols are problematic with some font due to spacing, use mathematical double angle.

code to show	result
_n<_	〈
_n>_	〉

- DOUBLE ANGLE BRACKET

  If these symbols are problematic with some font due to spacing, use mathematical angle.

code to show	result
`_n<<_`	《
`_n>>_`	》

- CORNER BRACKET

  These symbols can be problematic with some font due to spacing.

code to show	result
`_c<_`	﹁
`_c>_`	﹂

- WHITE CORNER BRACKET

  These symbols can be problematic with some font due to spacing.

code to show	result
`_w<_`	﹃
`_w>_`	﹄

Examples

- « Voulez-vous un sandwich, Henri ? »
- Andreas fragte mich: „Hast du den Artikel ‚EU-Erweiterung' gelesen?"
- Andreas fragte mich: »Hast du den Artikel ›EU-Erweiterung‹ gelesen?«
- This is 《The SuperCollider Book》.
- This is 〈The SuperCollider Book〉.
- This is ﹝The SuperCollider Book﹞.
- This is ﹁The SuperCollider Book﹂.
- This is ﹃The SuperCollider Book﹄.

(— From Wikipedia article "Quotation mark ")

1.1.3. Alternative brackets for predefined small size text

The following brackets make themselves and the text within smaller and are useful when the text is written in non-Roman alphabets:

- ⦅⦆: MEDIUM FLATTENED LEFT PARENTHESIS ORNAMENT.
  0.85em. It can be used for year for example.

code to show	result
`_f(__f)_`	⦅f⦆

- 〔〕: MEDIUM LEFT PARENTHESIS ORNAMENT
  0.85em. It can be used for explanatory text for example.

code to show	result
`_m(__m)_`	〔m〕

- 〖〗: LIGHT TORTOISE SHELL BRACKET ORNAMENT
  0.71em. It can be used for the origin of the word.

code to show	result
`_s(__s)_`	〖s〗

Examples

- akousmatikós (ἀκουσματικός)
- reduced listening (l'écoute réduite)
- Pierre Schaeffer 'Études de bruits' (1948).
- SuperCollider (a cross-platform environment for audio synthesis and algorithmic composition used by musicians, artists and researchers working with sound) can be installed and run on Linux, macOS and Windows, as well as microcomputers such as Raspberry Pi and BeagleBone Black.

1.1.4. SUBSUBSECTION (soft-coded, but appears in TOC)

The following code displays a soft-coded subsection, which also appears in the TOC:

```
subsection:: :sub:1.1.4. SUBSUBSECTION _m(_soft-coded, but appears in TOC_m)_
```

<image src='../Reference/resources/subsubsection_in_TOC.png'>

1.1.5. Paragraph spacing

The following code prints a blank line:

```
Line 1 begins.

It is still Line 1.
```

Line 1 begins. It is still Line 1.

```
Line 2
<br>Line 3 due to '<br>'
<br> Line 4 due to '<br>'
<br>
Line 5
```

Line 2
Line 3 due to '<br>'
Line 4 due to '<br>'
Line 5

The height of a line can be adjusted with the units like `em` , `rem` and `%` :

```
Line 1: default line-height

Line 2: 'line-height:33%'
<p style='line-height:33%'>
Line 4: 'line-height:0.33em
<p style='line-height:0.33em'>
Line 6: 'line-height:0.33em'
<p style='line-height:0.33rem'>
Line 8: 'line-height:66%'
<p style='line-height:66%'>
Line 10: 'line-height:0.66em'
<p style='line-height:0.66em'>
Line 12: 'line-height:0.66rem'
<p style='line-height:0.66rem'>
```

Line 1: default line-height
Line 2: 'line-height:33%'
Line 4: 'line-height:0.33em
Line 6: 'line-height:0.33em'
Line 8: 'line-height:66%'
Line 10: 'line-height:0.66em'
Line 12: 'line-height:0.66rem'

WARNING: Attributes should be written in single quotation marks.

An Example:

The standard Lorem Ipsum passage, used since the 1500s:
Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

Section 1.10.32 of “de Finibus Bonorum et Malorum”, written by Cicero in 45 BC:
"*Sed ut perspiciatis unde omnis iste natus error sit voluptatem accusantium doloremque laudantium, totam rem aperiam, eaque ipsa quae ab illo inventore veritatis et quasi architecto beatae vitae dicta sunt explicabo. Nemo enim ipsam voluptatem quia voluptas sit aspernatur aut odit aut fugit, sed quia consequuntur magni dolores eos qui ratione voluptatem sequi nesciunt. Neque porro quisquam est, qui dolorem ipsum quia dolor sit amet, consectetur, adipisci velit, sed quia non numquam eius modi tempora incidunt ut labore et dolore magnam aliquam quaerat voluptatem. Ut enim ad minima veniam, quis nostrum exercitationem ullam corporis suscipit laboriosam, nisi ut aliquid ex ea commodi consequatur? Quis autem vel eum iure reprehenderit qui in ea voluptate velit esse quam nihil molestiae consequatur, vel illum qui dolorem eum fugiat quo voluptas nulla pariatur?*"

1.1.6. Table formatting

All table tags are supported as follow:

- `< table>` , `< table` , `< /table>`

- `<caption>`, `</caption>`
- `<thead>`, `</thead>`
- `<tr>`, `</tr>`
- `<th scope='col'>`, `<th scope='row'>`, `<th >`, `</th>`
- `<tbody>`, `</tbody>`
- `<td>`, `<td>`, `</td>`

WARNING: Attributes should be written in single quotation marks.

Example

```
<table style='border:1px solid #ccc; border-collapse:collapse; text-align:center'>
  <caption>Order Details</caption>
  <thead>
    <tr>
      <th scope='col' style='text-align:center; border:1px solid #ccc;'>Order ID</th>
      <th scope='col' style='border:1px solid #ccc;'>Customer</th>
      <th scope='col' style='border:1px solid #ccc;'>Items</th>
      <th scope='col' colspan='2' style='border:1px solid #ccc; font-size:0.8em'>Shipping</th>
    </tr>
  </thead>
  <tbody>
    <tr>
      <th scope='row' rowspan='2' style='border:1px solid #ccc;'>12345</th>
      <td rowspan='2'>John Doe</td>
      <td>Headphones</td>
      <td rowspan='2'>Address</td>
      <td>Standard</td>
    </tr>
    <tr>
      <td>Speakers</td>
      <td>Express</td>
    </tr>
    <tr>
      <th scope='row' style='border:1px solid #ccc;'>67890</th>
      <td>Jane Smith</td>
      <td>Software Bundle</td>
      <td colspan='2'>Downloadable</td>
    </tr>
  </tbody>
</table>
```

Order Details

Order ID	Customer	Items	Shipping	
12345	John Doe	Headphones	Address	Standard
		Speakers		Express
67890	Jane Smith	Software Bundle	Downloadable	

1.1.7. Horizontal Line

The following code prints a horizontal line:

```
<hr>
```

A horizontal line in teletype:

```
text
---
text
```

1.1.8. Small Text

The following code displays small text:

```
<small>This is small text.</small>
```

This is small text.

Normal and small text in teletype:

```
This is normal text.
This is small text.
```

1.1.9. Strong and Emphasis

- The following code displays bold text:

  ```
  strong::This is bold text.::
  ```

  This is bold text.

  To use bold text in teletype, you can use a pair of the following tags:

  ```
  <strong></strong>
  ```

  This is bold text.

- The following code

  ```
  emphasis::This is italic text.::
  ```

  and the following code display italic text:

```
<em>This is italic text.<em>
```

This is italic text.

To use bold text in teletype, you can use a pair of the following tags:

```
<em></em>
```

This is italic text.

- Bold italic text is not available with the built-in hardcoded SCDoc Syntax. The following code displays bold italic text:

```
<em>strong::This is bold italic text.::</em>
```

This is bold italic text.

To use bold text in teletype, you can use one of a pair of the following tags:

```
<em><strong></strong></em>
```

or

```
<strong><em></em></strong>
```

This is bold italic text.

Small text can also be italic, bold and bold italic.

Examples

code	text	teletype
`<small>small normal text</small>`	small normal text	`small normal text`
`<small><strong>small bold text</strong></small>`	**small bold text**	**`small bold text`**
`<small><em>small italic text</em></small>`	*small italic text*	*`small italic text`*
`<small><em><strong>small bold italic text</strong></em></small>`	***small bold italic text***	***`small bold italic text`***

1.1.10. Superscript and Subscript

For superscripts, see 1.2.1. Exponentiation: base and exponent in text body. For subscripts, see 1.2.2. Logarithm: base and operand in text body.

1.1.11. Various brackets with predefined font size

The following brackets make themselves and the text within smaller and are useful when the text is written in non-Roman alphabets:

- 〘〙: MEDIUM FLATTENED LEFT PARENTHESIS ORNAMENT.
  0.85em. It can be used for year for example.

code to show	result
`_f(__f)_`	〘f〙

- 〖〗: MEDIUM LEFT PARENTHESIS ORNAMENT
  0.85em. It can be used for explanatory text for example.

code to show	result
`_m(__m)_`	〖m〗

- 〔〕: LIGHT TORTOISE SHELL BRACKET ORNAMENT
  0.71em. It can be used for the origin of the word.

code to show	result
`_s(__s)_`	〔s〕

1.2. Mathematical Expressions

1.2.1. Mathematical symbols

In sclang, π is represented as `pi` . The symbol π is provided by OS, but you can use more beatiful π using LaTeX via MathJax as follows:

style	Language	Code	result
inlined	LaTeX	`This is a \(\pi\) symbol in LaTeX.`	This is a π symbol in LaTeX.

display	LaTeX	`This is a`
		`\[\pi\]`
		`symbol in LaTeX.`
			This is a
			π
			symbol in LaTeX.

1.2.2. Exponentiation: base and exponent in text body

The following code displays an exponential expression with base and exponent:

```
2<sup>2</sup> = 4
```

$2^2 = 4$

In teletype:

```
2^2 = 4
```

- linear scale:

```
1  2  3  4  5  6  7  8  9  10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29
30 31 32
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |
1  2     4           8                       16
32
```

- Logarithmic scale (expressed using exponentiation. See increasing exponents)

```
1                  2                  4                  8                  16
32
2^0                2^1                2^2                2^3                2^4
2^5
```

1.2.3. Logarithm: base and operand in text body

The following code displays a logarithmic expression with base and operand:

```
log<sub>2</sub>2 = 1
<em>log<sub>2</sub></em> 2 = 1
```

$\log_2 2 = 1$

$log_2 2 = 1$

In teletype:

```
log_2 2 = 1
log_2 2 = 1
```

Also, **LaTeX** ㅏㄴ suppored:

```
\(\log_2 2\)
```

$\log_2 2$

```
\[\log_2 2\]
```

$$\log_2 2$$

Examples:

Amplitude and dB FS:

using subscript	using LaTeX	sclang code
20 log_{10} (1 / 1) = 0 dB	$20 \log_{10} \left(\frac{1}{1} \right) = 0 \text{ dB FS}$	`20 * log10(1/1)`
20 log_{10} (1 / 1) = -20 dB	$20 \log_{10} \left(\frac{0.1}{1} \right) = -20 \text{ dB FS}$	`20 * log10(1e-1/1)`
20 log_{10} (0.01 / 1) = -40 dB	$20 \log_{10} \left(\frac{0.01}{1} \right) = -40 \text{ dB FS}$	`20 * log10(1e-2/1)`
20 log_{10} (0.001 / 1) = -60 dB	$20 \log_{10} \left(\frac{0.001}{1} \right) = -60 \text{ dB FS}$	`20 * log10(1e-3/1)`
20 log_{10} (0.0001 / 1) = -80 dB	$20 \log_{10} \left(\frac{0.0001}{1} \right) = -80 \text{ dB FS}$	`20 * log10(1e-4/1)`
20 log_{10} (0.00001 / 1) = -100 dB	$20 \log_{10} \left(\frac{0.00001}{1} \right) = -100 \text{ dB FS}$	`20 * log10(1e-5/1)`

1.2.4. Fraction in text body

Fraction in text body can be presented in two styles:

- `1<sup>1</sup>/<sub>2</sub>`

  $1^{1}/_{2}$
- `\(1\frac{1}{2}\) \(1\tfrac{1}{2}\) \(1\dfrac{1}{2}\)`

  $1\frac{1}{2}$ $1\tfrac{1}{2}$ $1\dfrac{1}{2}$

In paragraphs, you can use fractions such as $1^{1}/_{2}$ HTML's superscript and subscript. It can also be used in teletype text. `1/4 : 1/2 : 1 : 2 : 4`. You can also use more mathematically styled fractions such as $1\frac{1}{2}$ (frac), $1\tfrac{1}{2}$ (tfrac), $1\dfrac{1}{2}$ (dfrac) using LaTex syntax via MathJax script. The script is

automatically included by SC when it renders the SC-Doc to HTML, so you don't need to include it again. If it does not display correct mathematical expressions in blocked teletype

$\frac{1}{4} : \frac{1}{2} : 1 : 2 : 4$

or in ilined teletype text ($\frac{1}{4} : \frac{1}{2} : 1 : 2 : 4$):

Latex code:

```
\(\frac{1}{4}\) : \(\frac{1}{2}\) : \(1\) : \(2\) : \(4\)
```

Examples 1. sclang's bilt-in method until spring 2024 (inlined maths)

```
The frequency ratio of a given note to the same note one octave higher is teletype::1:2::.
For example, the frequency of the note one octave above the middle A (A4 in scientific pitch
notation) tuned at teletype::440 Hz:: is teletype::880 Hz::.
Therefore, the ratio of teletype::two octaves lower frequency : one octave lower frequency : a
given frequency : one octave higher frequency : two octaves higher frequency:: is
teletype::1/4 : 1/2 : 1 : 2 : 4::.
It is expressed using the exponent as teletype::2 ** -2  :  2 ** -1  : 2 ** 0  : 2 ** 1  :  2
** 2:: or teletype::2.pow(-2) : 2.pow(-1) : 2.pow(0) : 2.pow(1) : 2.pow(2)::.
```

The frequency ratio of a given note to the same note one octave higher is `1:2` . For example, the frequency of the note one octave above the middle A (A4 in scientific pitch notation) tuned at `440 Hz` is `880 Hz` . Therefore, the ratio of `two octaves lower frequency : one octave lower frequency : a given frequency : one octave higher frequency : two octaves higher frequency` is `1/4 : 1/2 : 1 : 2 : 4` . It is expressed using the exponent as `2 ** -2  :  2 ** -1  : 2 ** 0  : 2 ** 1  :  2 ** 2` or `2.pow(-2) : 2.pow(-1) : 2.pow(0) : 2.pow(1) : 2.pow(2)` .

Examples 2. Using my recent PRs (inlined maths of LaTeX)

```
The frequency ratio of a given note to the same note one octave higher is \(1:2\).
For example, the frequency of the note one octave above the middle A _m(_A4 in scientific
pitch notation_m)_ tuned at \(440\text{ Hz}\) is \(880\text{ Hz}\).
Therefore, the ratio of teletype::two octaves lower frequency : one octave lower frequency : a
given frequency : one octave higher frequency : two octaves higher frequency:: is \(\frac{1}
{4}:\frac{1}{2}:1:2:4\).
It is expressed using the exponent as \(2^{-2}:2^{-1}:2^0:2^1:2^2\).
```

The frequency ratio of a given note to the same note one octave higher is $1:2$. For example, the frequency of the note one octave above the middle A (A4 in scientific pitch notation) tuned at $440\ \text{Hz}$ is $880\ \text{Hz}$. Therefore, the ratio of `two octaves lower frequency : one octave lower frequency : a given frequency : one octave higher frequency : two octaves higher frequency` is $\frac{1}{4} : \frac{1}{2} : 1 : 2 : 4$. It is expressed using the exponent as $2^{-2} : 2^{-1} : 2^0 : 2^1 : 2^2$.

Examples 3. sclang's bilt-in method until spring 2024 (display math using image)

```
The frequency ratio of a given note to the same note one octave higher is teletype::1:2::.
For example, the frequency of the note one octave above the middle A (A4 in scientific pitch
notation) tuned at teletype::440 Hz:: is teletype::880 Hz::.
Therefore, the ratio of

teletype::
```

```
two octaves lower frequency : one octave lower frequency : a given frequency : one octave
higher frequency : two octaves higher frequency
::

is as follows:
image::../Reference/resources/1/4:1/2:1:2:4.svg::
It is expressed using the exponent as:
image::../Reference/resources/1/4:1/2:1:2:4_asExponent.svg::
```

The frequency ratio of a given note to the same note one octave higher is `1:2` . For example, the frequency of the note one octave above the middle A (A4 in scientific pitch notation) tuned at `440 Hz` is `880 Hz` . Therefore, the ratio of

`two octaves lower frequency : one octave lower frequency : a given frequency : one octave higher frequency : two octaves higher frequency`

is as follows:

$$\frac{1}{4} : \frac{1}{2} : 1 : 2 : 4$$

It is expressed using the exponent as:

$$2^{-2} : 2^{-1} : 2^{0} : 2^{1} : 2^{2}$$

Examples 4. Using my recent PRs (display maths of LaTeX)

```
The frequency ratio of a given note to the same note one octave higher is \(1:2\).
For example, the frequency of the note one octave above the middle A _m(_A4 in scientific
pitch notation_m)_ tuned at \(440\text{ Hz}\) is \(880\text{ Hz}\).
Therefore, the ratio of

teletype::
two octaves lower frequency : one octave lower frequency : a given frequency : one octave
higher frequency : two octaves higher frequency
::

is as follows:
\[\frac{1}{4}:\frac{1}{2}:1:2:4\]
It is expressed using the exponent as: \[2^{-2}:2^{-1}:2^0:2^1:2^2\]
```

The frequency ratio of a given note to the same note one octave higher is $1 : 2$. For example, the frequency of the note one octave above the middle A (A4 in scientific pitch notation) tuned at $440\ \text{Hz}$ is $880\ \text{Hz}$. Therefore, the ratio of

`two octaves lower frequency : one octave lower frequency : a given frequency : one octave higher frequency : two octaves higher frequency`

is as follows:

$$\frac{1}{4} : \frac{1}{2} : 1 : 2 : 4$$

It is expressed using the exponent as:

$$2^{-2} : 2^{-1} : 2^{0} : 2^{1} : 2^{2}$$

1.2.5. Equations

The following code represents a mathematical equation using LaTeX Synthex via MathJax script. The script is automatically included by SC when it renders the SC-Doc to HTML, so you don't need to include it again. This cannot be inlined.

```
\[x = {-b \pm \sqrt{b^2-4ac} \over 2a}.\]
```

$$x = {-b \pm \sqrt{b^2-4ac} \over 2a}.$$

```
strong::An examlple:: showing inlined mathematical expressions and an equation:
When \(a \ne 0\), there are two solutions to \(ax^2 + bx + c = 0\) and they are
\(x = {-b \pm \sqrt{b^2-4ac} \over 2a}.\)

(cited from: link::https://jsbin.com/?html,output::
)
```

An examlple showing inlined mathematical expressions and an equation: When $a \ne 0$, there are two solutions to $ax^2 + bx + c = 0$ and they are $x = {-b \pm \sqrt{b^2-4ac} \over 2a}$.
(cited from: https://jsbin.com/?html,output)

More examples

```
\[X_w(f) = \int_{-\infty}^{\infty} x_w(t) e^{-2 \pi i ft}\]
\[dt = \int_{-\infty}^{\infty} w(t)x(t) e^{-2 \pi i ft} dt\]
```

$$X_w(f) = \int_{-\infty}^{\infty} x_w(t) e^{-2 \pi i ft}$$

$$dt = \int_{-\infty}^{\infty} w(t)x(t) e^{-2 \pi i ft} dt$$

```
strong::\[X_w(f) = \int_{-\infty}^{\infty} x_w(t) e^{-2 \pi i ft}\]::
soft::\[dt = \int_{-\infty}^{\infty} w(t)x(t) e^{-2 \pi i ft} dt\]::
```

$$X_w(f) = \int_{-\infty}^{\infty} x_w(t) e^{-2 \pi i ft}$$

$$dt = \int_{-\infty}^{\infty} w(t)x(t) e^{-2 \pi i ft} dt$$

```
\(X_w(f) = \int_{-\infty}^{\infty} x_w(t) e^{-2 \pi i ft}\)
\(dt = \int_{-\infty}^{\infty} w(t)x(t) e^{-2 \pi i ft} dt\)
```

$X_w(f) = \int_{-\infty}^{\infty} x_w(t) e^{-2 \pi i ft}$
$dt = \int_{-\infty}^{\infty} w(t)x(t) e^{-2 \pi i ft} dt$

1.2.6. Greek alphabets used in mathematical expressions

Alpha	\(A \)	A	alpha	\(\alpha \)	α

Beta	`\( B \)`	B
Gamma	`\( \Gamma \)`	Γ
Delta	`\( \Delta \)`	Δ
Epsilon	`\( E \)`	E
Zeta	`\( Z \)`	Z
Eta	`\( H \)`	H
Theta	`\( \Theta \)`	Θ
Iota	`\( I \)`	I
Kappa	`\( K \)`	K
Lambda	`\( \Lambda \)`	Λ
Mu	`\( M \)`	M
Nu	`\( N \)`	N
Xi	`\( \Xi \)`	Ξ
Omicron	`\( O \)`	O
Pi	`\( \Pi \)`	Π
Rho	`\( P \)`	P
Sigma	`\( \Sigma \)`	Σ
Tau	`\( T \)`	T
Upsilon	`\( \Upsilon \)`	Υ
Phi	`\( \Phi \)`	Φ
Chi	`\( X \)`	X
Psi	`\( \Psi \)`	Ψ
Omega	`\( \Omega \)`	Ω

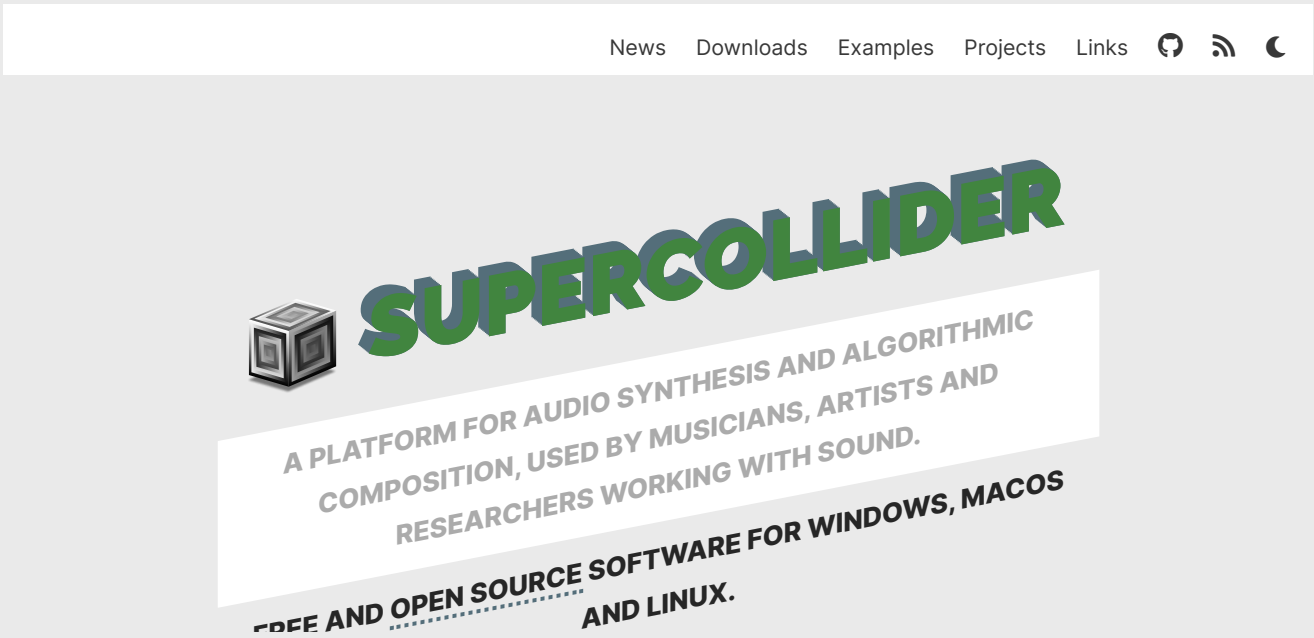
beta	`\( \beta \)`	β
gamma	`\( \gamma \)`	γ
delta	`\( \delta \)`	δ
epsilon	`\( \epsilon \)`	ϵ
zeta	`\( \zeta \)`	ζ
eta	`\( \eta \)`	η
theta	`\( \theta \)`	θ
iota	`\( \iota \)`	ι
kappa	`\( \kappa \)`	κ
lambda	`\( \lambda \)`	λ
mu	`\( \mu \)`	μ
nu	`\( \nu \)`	ν
xi	`\( \xi \)`	ξ
omicron	`\( o \)`	o
pi	`\( \pi \)`	π
rho	`\( \rho \)`	ρ
sigma	`\( \sigma \)`	σ
tau	`\( \tau \)`	τ
upsilon	`\( \upsilon \)`	υ
phi	`\( \phi \)`	ϕ
chi	`\( \chi \)`	χ
psi	`\( \psi \)`	ψ
omega	`\( \omega \)`	ω

1.3. Embedding other HTML with iframe

WARNING: Attributes should be written in single quotation marks.

The following code embeds a web page in an html document:

```
<iframe width='100%' height='470' src='https://supercollider.github.io/'
title='SuperCollider Forum scsynth' frameborder='0' allow='accelerometer; autoplay;
clipboard-write; encrypted-media; gyroscope; picture-in-picture; web-share'
referrerpolicy='strict-origin-when-cross-origin' allowfullscreen></iframe>
```



2. Multimedia

2.1. Image

WARNING: Attributes should be written in single quotation marks.

2.1.1. Offline Image

The following code demonstrates placing image with automatic size:

```
<img src='./functions.png' alt='Image description' width='auto' height='auto'>
```

The following code demonstrates placing image by defining its height:

```
<img src='./functions.png' alt='Image description' width='auto' height='200'>
```

Image description

The following code demonstrates placing image by defining its width:

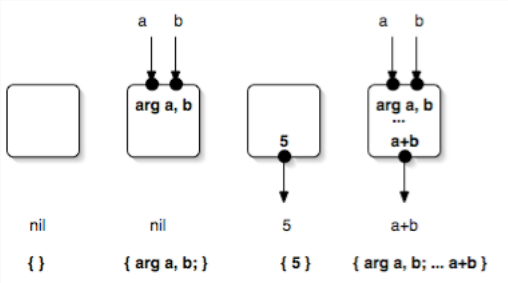
```
<img src='./functions.png' alt='Image description' width='200' height='auto'>
```

Image description

2.1.2. Online Image

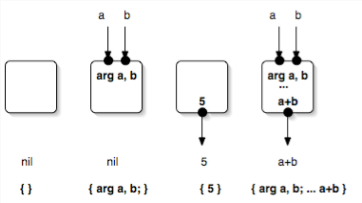
The following code demonstrates placing image with automatic size:

```
<img src='https://doc.sccode.org/Reference/functions.png' alt='Image description'
width='auto' height='auto'>
```



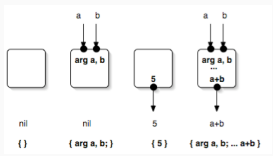
The following code demonstrates placing image by defining its height:

```
<img src='https://doc.sccode.org/Reference/functions.png' alt='Image description'
width='auto' height='150'>
```



The following code demonstrates placing image by defining its width:

```
<img src='https://doc.sccode.org/Reference/functions.png' alt='Image description'
width='200' height='auto'>
```



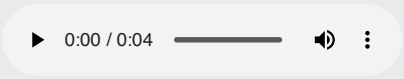
2.2. Audio

WARNING: Attributes should be written in single quotation marks.

2.2.1. Offline Audio

The following code demonstrates audio control using one or more local audio files:

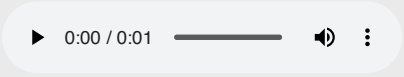
```
<audio controls>
<source src='../Reference/resources/a11wlk01.mp3' type='audio/mpeg'>
<source src='../Reference/resources/a11wlk01.ogg' type='audio/ogg'>
<source src='../Reference/resources/a11wlk01.wav' type='audio/wav'>
<source src='../Reference/resources/a11wlk01.aiff' type='audio/aiff'>
<source src='../Reference/resources/a11wlk01.flac' type='audio/flac'>
<source src='../Reference/resources/a11wlk01.m4a' type='audio/mp4'>
<source src='../Reference/resources/a11wlk01.wma' type='audio/x-ms-wma'>
Your browser does not support the audio element.
</audio>
```



2.2.2. Online Audio

The following code demonstrates audio control with an online audio file:

```
<audio controls>
<source src='https://www.w3schools.com/html/horse.ogg' type='audio/ogg'>
Your browser does not support the audio element.
</audio>
```



2.3. Video

WARNING: Attributes should be written in single quotation marks.

2.3.1. Offline Video

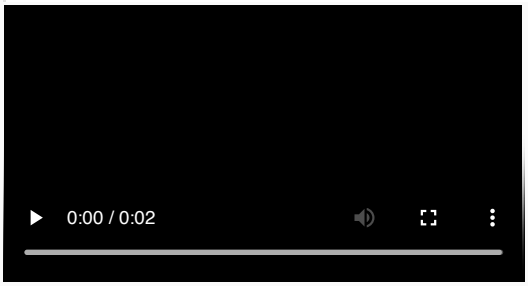
The following code demonstrates video control using a local video file:

size not defined

```
<video controls>
<source src='../Reference/resources/wave_propagation_simulation_2D.mp4' title='2D simulatic
in air' type='video/mp4'>
</video>
```

size defined

```
<video controls width='391' height='207'>
<source src='../Reference/resources/wave_propagation_simulation_2D.mp4' title='2D simulatic
in air' type='video/mp4'>
</video>
```



2.3.2. Online Video

The following code displays a YouTube video using an iframe:

```
<iframe width='560' height='315' src='https://www.youtube.com/embed/FI5rYjP9Vn8?
si=X4WSZJaBZQToE9je' title='YouTube video player' frameborder='0' allow='accelerometer;
```

```
autoplay; clipboard-write; encrypted-media; gyroscope; picture-in-picture; web-share'
referrerpolicy='strict-origin-when-cross-origin' allowfullscreen></iframe>
```