Test File for the Org Mode Theme

Simple set of CSS and JS files

Dehaeze Thomas

December 10, 2020

Contents

1 Basics **3**
- 1.1 Normal Markup . . . 3
- 1.2 Links to Footnotes . . . 3
- 1.3 Lists . . . 3
- 1.4 Links . . . 4
- 1.5 Maths . . . 5
- 1.6 Verse, Quote . . . 5
- 1.7 Aside . . . 6
- 1.8 Inline Task . . . 6

2 Headlines **7**
- 2.1 Second level Headline with tags @HOME:@WORK . . . 7
  - 2.1.1 Third level Headline . . . 7
  - 2.1.2 Third level Headline . . . 7
- 2.2 **TODO** Second level Headline with Schedule . . . 7
- 2.3 #B Second level Headline with a priority . . . 8
- 2.4 **TODO** #C Second level Headline with TODO State . . . 8
- 2.5 **DONE** #A Second level Headline with DONE State . . . 8
  - 2.5.1 **WAIT** Third level Headline with DONE State . . . 8

3 Blocks **9**

4 Source Blocks **11**
- 4.1 Figures . . . 11
- 4.2 Table Result . . . 11
- 4.3 Inline Results . . . 12
- 4.4 Caption and Reference . . . 12
- 4.5 Source Blocks with Line Numbers . . . 13

5 Images **15**

6 Tables **16**

7 Details **17**

8 Videos **18**

1 Basics

1.1 Normal Markup

You can make words **bold**, *italic*, underlined, `verbatim` and `code`, and, if you must, ~~strike-through~~.

Here is some inline code Matlab code: `[K,CL,gamma] = mixsyn(G,W1,[],W3);` .

1.2 Links to Footnotes

A link to a footnote[1] and to another footnote[2].

1.3 Lists

Unordered List:

- Lorem ipsum dolor sit amet, consectetur adipiscing elit.
- Nam aliquet euismod viverra.
- Phasellus turpis nisi, faucibus a orci et, faucibus fermentum ligula.

List with Tasks:

- ☐ Task 1
- ☒ Task 2
- ⊟ Sub-tasks:
  - ☐ Sub-task 1
  - ☒ Sub-task 2

Ordered List:

1. In libero odio, imperdiet eget ex a, vulputate suscipit tellus.

[1] A long foot note. Lorem ipsum dolor sit amet, consectetur adipiscing elit. With a reference to Figure 5.1.
[2] An other footnote.

2. Etiam sed leo ex.

3. Integer eu rutrum turpis.

Nested Lists:

- Nulla facilisi.
- Donec vulputate risus ut lectus bibendum, vitae fringilla odio tempus.
    1. In libero odio, imperdiet eget ex a, vulputate suscipit tellus.
    2. Etiam sed leo ex.
        - Nulla facilisi.
        - Donec vulputate risus ut lectus bibendum, vitae fringilla odio tempus.
    3. Integer eu rutrum turpis.
- Ut porta, quam id mattis feugiat, augue mauris bibendum sapien, a pulvinar mi lorem vitae nunc.
    - Integer eu rutrum turpis.
        * Sed pretium mattis nibh, vel lobortis augue semper vel.

Definition List:

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Mauris laoreet sollicitudin venenatis. Duis sed consequat dolor.

Etiam feugiat pharetra sapien et semper. Nunc ornare lacus sit amet massa auctor, vitae aliquam eros interdum. Mauris arcu ante, imperdiet vel purus ac, bibendum faucibus diam. Ut blandit nec mi at ultricies. Donec eget mattis nisl. In sed nibh felis. Cras quis convallis orci.

Sed aliquam odio sed faucibus aliquam, arcu augue elementum justo, ut vulputate ligula sem in augue. Maecenas ante felis, pellentesque auctor semper non, eleifend quis ante. Fusce enim orci, suscipit ac dapibus et, fermentum eu tortor. Duis in facilisis ante, quis faucibus dolor. Etiam maximus lorem quis accumsan vehicula.

1.4 Links

Here is a list of links to:

- Figure 5.1
- Table 6.1
- Listing 4.1

- Specific line of code
- Equation (1.1)
- Section 2
- Bibliographic Reference [3], and [2, 1, 3]

1.5 Maths

Here is some inline mathematics: $z = 2$.

Unumbered equation:

$$F(x) = \int_0^x f(t)dt$$

Using the `equation` environment in Eq. (1.1).

$$F(s) = \int_0^\infty f(t)e^{-st}dt \tag{1.1}$$

Using the `align` environment Equations (1.2) and (1.3).

$$\mathcal{F}(a) = \frac{1}{2\pi i}\oint_\gamma \frac{f(z)}{z-a}\,dz \tag{1.2}$$

$$\int_D (\nabla \cdot \mathcal{F})\,dV = \int_{\partial D} \mathcal{F}\cdot n\,dS \tag{1.3}$$

1.6 Verse, Quote

Below is a verse.

> reat clouds overhead
> Tiny black birds rise and fall
> Snow covers Emacs
> —AlexSchroeder

Below is a quote.

> obody ever figures out what life is all about, and it doesn't matter. Explore the world. Nearly everything is really interesting if you go into it deeply enough.
> —Richard P. Feynman

1.7 Aside

An aside block can be used as shown below.

Cras elementum ex vel orci congue porttitor. Vestibulum scelerisque gravida mattis. Suspendisse sit amet volutpat felis. Cras luctus porta lectus eget scelerisque. Cras blandit purus vel odio malesuada pellentesque. Interdum et malesuada fames ac ante ipsum primis in faucibus. Morbi eget aliquet sapien. Nunc eu elit in ligula aliquam congue dapibus eu massa. Sed accumsan hendrerit viverra. Quisque purus enim, tristique vitae porttitor eu, feugiat non ligula. Duis vitae ipsum vel quam ultricies ornare quis vitae quam. Vivamus commodo mauris non ex rutrum, sagittis facilisis metus tincidunt. Etiam vel nibh sit amet lorem auctor volutpat vel quis nulla. Quisque nec pharetra justo.

This is a note about the text using the `aside` environment. This can be as long as wanted

1.8 Inline Task

Some text.

TODO [#C] This is an inline task

SCHEDULED: *<2020-11-26 jeu.>*

Some text.

2 Headlines

2.1 Second level Headline with tags @home:@work

2.1.1 Third level Headline

Fourth level Headline

Aliquam aliquet sagittis lorem in rutrum. Cras pharetra viverra nisi, at placerat felis malesuada elementum. Donec tincidunt pharetra tincidunt. Praesent id lectus eget erat porttitor placerat non a magna. Cras non mauris ex. Morbi ut eros eu tellus egestas dapibus et et est. Aenean sollicitudin nibh enim, sed pulvinar massa iaculis sit amet. Vivamus egestas laoreet varius. Sed finibus libero nec quam tempor, eget viverra sapien fermentum. Donec dictum eleifend velit, vel elementum ex ultrices non. Vivamus mauris ex, ultrices quis sem vel, dapibus lacinia est. Praesent a sapien id diam venenatis finibus non vel justo. Cras sagittis tortor ac rutrum elementum. Maecenas luctus tempor enim, vitae suscipit quam consequat a. Phasellus feugiat congue sapien commodo cursus. Interdum et malesuada fames ac ante ipsum primis in faucibus.

2.1.2 Third level Headline

Fourth level Headline

Aliquam aliquet sagittis lorem in rutrum. Cras pharetra viverra nisi, at placerat felis malesuada elementum. Donec tincidunt pharetra tincidunt. Praesent id lectus eget erat porttitor placerat non a magna. Cras non mauris ex. Morbi ut eros eu tellus egestas dapibus et et est. Aenean sollicitudin nibh enim, sed pulvinar massa iaculis sit amet. Vivamus egestas laoreet varius. Sed finibus libero nec quam tempor, eget viverra sapien fermentum. Donec dictum eleifend velit, vel elementum ex ultrices non. Vivamus mauris ex, ultrices quis sem vel, dapibus lacinia est. Praesent a sapien id diam venenatis finibus non vel justo. Cras sagittis tortor ac rutrum elementum. Maecenas luctus tempor enim, vitae suscipit quam consequat a. Phasellus feugiat congue sapien commodo cursus. Interdum et malesuada fames ac ante ipsum primis in faucibus.

2.2 TODO Second level Headline with Schedule

SCHEDULED: *<2020-11-26 jeu.>*

Aliquam aliquet sagittis lorem in rutrum. Cras pharetra viverra nisi, at placerat felis malesuada elementum. Donec tincidunt pharetra tincidunt. Praesent id lectus eget erat porttitor placerat non a magna. Cras non mauris ex. Morbi ut eros eu tellus egestas dapibus et et est. Aenean sollicitudin nibh enim, sed pulvinar massa iaculis sit amet. Vivamus egestas laoreet varius. Sed finibus libero nec quam tempor, eget viverra sapien fermentum. Donec dictum eleifend velit, vel elementum ex ultrices non. Vivamus mauris ex, ultrices quis sem vel, dapibus lacinia est. Praesent a sapien id diam venenatis finibus non vel justo. Cras sagittis tortor ac rutrum elementum. Maecenas luctus tempor enim, vitae suscipit quam consequat a. Phasellus feugiat congue sapien commodo cursus. Interdum et malesuada fames ac ante ipsum primis in faucibus.

2.3 [#B] Second level Headline with a priority

Aliquam aliquet sagittis lorem in rutrum. Cras pharetra viverra nisi, at placerat felis malesuada elementum. Donec tincidunt pharetra tincidunt. Praesent id lectus eget erat porttitor placerat non a magna.

2.4 TODO [#C] Second level Headline with TODO State

Vivamus egestas laoreet varius. Sed finibus libero nec quam tempor, eget viverra sapien fermentum. Donec dictum eleifend velit, vel elementum ex ultrices non. Vivamus mauris ex, ultrices quis sem vel, dapibus lacinia est. Praesent a sapien id diam venenatis finibus non vel justo.

2.5 DONE [#A] Second level Headline with DONE State

CLOSED: *[2020-11-26 jeu. 18:53]*
Cras sagittis tortor ac rutrum elementum. Maecenas luctus tempor enim, vitae suscipit quam consequat a. Phasellus feugiat congue sapien commodo cursus. Interdum et malesuada fames ac ante ipsum primis in faucibus.

2.5.1 WAIT Third level Headline with DONE State

CLOSED: *[2020-11-26 jeu. 18:53]*
Cras non mauris ex. Morbi ut eros eu tellus egestas dapibus et et est. Aenean sollicitudin nibh enim, sed pulvinar massa iaculis sit amet.

3 Blocks

See Also

`seealso` block.

Hint

`hint` block.

Definition

`definition` block.

Important

`important` block.

Example

`exampl` block.

Exercice

`exercice` block.

Question

`question` block.

Answer

`answer` block.

Summary

`summary` block.

Note

`note` block.

Caution

`caution` block.

Warning

`warning` block.

4 Source Blocks

4.1 Figures

```Matlab
t = 0:0.01:5; % Time [s]
x = sin(2*pi*t); % Output Voltage [V]
```

```Matlab
figure;
plot(t, x);
xlabel('Time [s]'); ylabel('Voltage [V]');
```

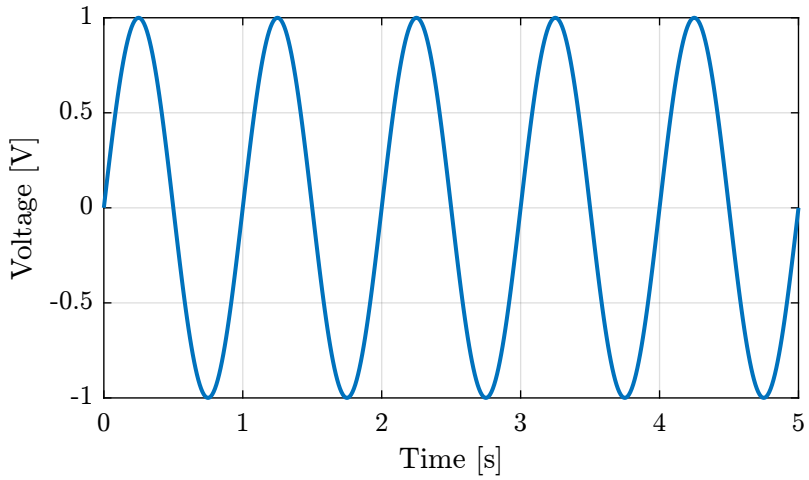

Figure 4.1: Matlab Figure

4.2 Table Result

```Matlab
x = 1:10;
y = x.^2;
```

Table 4.1: Table caption

x	$y = x^2$
1	1
2	4
3	9
4	16
5	25
6	36
7	49
8	64
9	81
10	100

4.3 Inline Results

Results can be automatically outputed as shown below.

Matlab
```
sqrt(2)
```

Results
```
1.4142
```

Matlab
```
y
```

Results
```
y =
     1     4     9    16    25    36    49    64    81   100
```

4.4 Caption and Reference

Captions can be added to code blocks. Moreover, we can link to specific bode blocks (Listing 4.1 or 4.2).

Matlab
```
figure;
[X,Y,Z] = peaks;
contour(X,Y,Z,20)
```

Listing 4.1: Code to produce a nice contour plot

Results
```
A = [1 2; 3 4; 5 6; 7 8]
A =
     1     2
     3     4
```

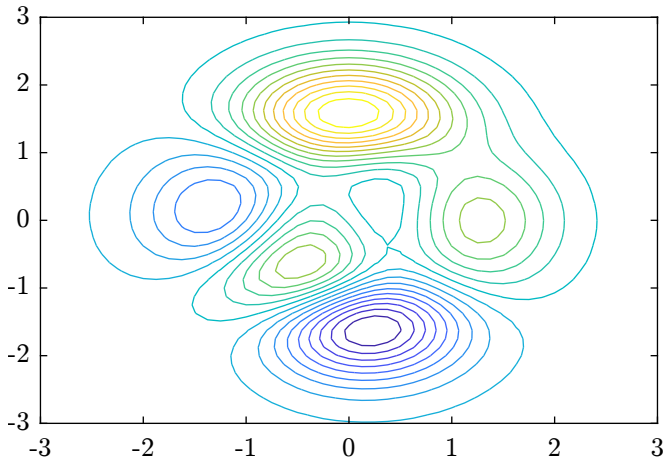

Figure 4.2: Obtained Contour Plot

Matlab

```
A = [1 2; 3 4; 5 6; 7 8]
[U,S,V] = svd(A)
```

Listing 4.2: Code to compute the Singular Value Decomposition

```
     5     6
     7     8
[U,S,V] = svd(A)
U =
        -0.152483233310201         -0.82264747222566        -0.394501022283829        -0.379959133877596
        -0.349918371807964         -0.42137528768458         0.242796545704357         0.800655879510063
        -0.547353510305727        -0.0201031031435029         0.697909975442776        -0.461434357387336
         -0.74478864880349         0.381169081397575        -0.546205498863303        0.0407376117548695
S =
          14.2690954992615                         0
                         0         0.626828232417541
                         0                         0
                         0                         0
V =
        -0.641423027995072         0.767187395072177
        -0.767187395072177        -0.641423027995072
```

4.5 Source Blocks with Line Numbers

The Listing 4.3 has line numbers as the `-n` option was used.

Specific lines of codes can be referenced. For instance, the code used to specify the wanted the vertical label is on line 4.

Numbering can be continued by using `+n` option as shown below.

Matlab

```
5  figure;
6  plot(t, u)
7  xlabel('Time [s]');
8  ylabel('Input [V]');
```

Matlab

```
figure;
plot(t, x)
xlabel('Time [s]');
ylabel('Output [V]');
```

Listing 4.3: Specify Labels

5 Images

Figure 5.1 shows the results of the Tikz code of listing 5.1.

LaTeX

```latex
\begin{tikzpicture}

  % Blocs
  \node[block={2.0cm}{2.0cm}] (P) {$P$};
  \node[block={1.5cm}{1.5cm}, below=0.7 of P] (K) {$K$};

  % Input and outputs coordinates
  \coordinate[] (inputw)  at ($(P.south west)!0.75!(P.north west)$);
  \coordinate[] (inputu)  at ($(P.south west)!0.25!(P.north west)$);
  \coordinate[] (outputz) at ($(P.south east)!0.75!(P.north east)$);
  \coordinate[] (outputv) at ($(P.south east)!0.25!(P.north east)$);

  % Connections and labels
  \draw[<-] (inputw) node[above left, align=right]{(weighted)\\exogenous inputs\\$w$} -- ++(-1.5, 0);
  \draw[<-] (inputu) -- ++(-0.8, 0) |- node[left, near start, align=right]{control signals\\$u$} (K.west);

  \draw[->] (outputz) node[above right, align=left]{(weighted)\\exogenous outputs\\$z$} -- ++(1.5, 0);
  \draw[->] (outputv) -- ++(0.8, 0) |- node[right, near start, align=left]{sensed output\\$v$} (K.east);
\end{tikzpicture}
```

Listing 5.1: Tikz code that is used to generate Figure 5.1

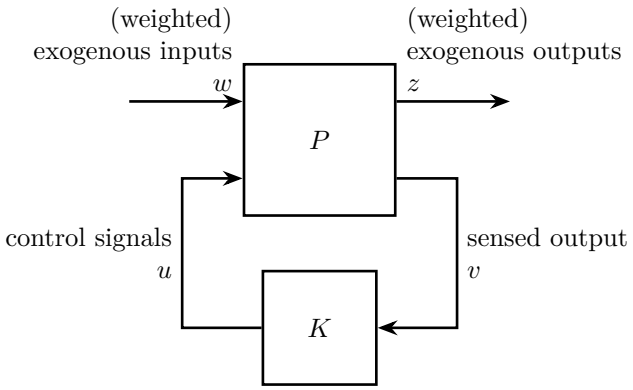

Figure 5.1: General Control Configuration

6 Tables

Table 6.1 shows a table with some mathematics inside.

Table 6.1: A Simple table with included math

N	N^2	N^3	N^4	$\sqrt{n}$	$\sqrt[4]{N}$
1	1	1	1	1	1
2	4	8	16	1.4142136	1.1892071
3	9	27	81	1.7320508	1.3160740

Table 6.2: Table without Head

	1	**2**	**3**	**4**	**5**
1	1	2	3	4	5
2	2	4	6	8	10
3	3	6	9	12	15
4	4	8	12	16	20
5	5	10	15	20	25

Table 6.3: Table with multiples groups

	Classical Control	**Modern Control**	**R**
Date	1930-	1960-	
Tools	Transfer Functions	State Space formulation	
	Nyquist Plots	Riccati Equations	Systems and Sig
	Bode Plots		Closed Lo
	Phase and Gain margins		Wei
Control Architectures	Proportional, Integral, Derivative	Full State Feedback	General
	Leads, Lags	LQR, LQG	
		Kalman Filters	
Advantages	Study Stability	Automatic Synthesis	Aut
	Simple	MIMO	
	Natural	Optimization Problem	Opti
			Guar
			Easy speci
Disadvantages	Manual Method	No Guaranteed Robustness	Required k
	Only SISO	Difficult Rejection of Perturbations	Need a reasonal

7 Details

Below is some content hidden until you click the bar.

Almost anything can be put here for instance this table below.

Table 7.1: A Simple table with included math

N	N^2	N^3	N^4	$\sqrt{n}$	$\sqrt[4]{N}$
1	1	1	1	1	1
2	4	8	16	1.4142136	1.1892071
3	9	27	81	1.7320508	1.3160740

This `details` blocks can even be put in other blocks are shown below.

It is approximately **12,742 km**

Question

What is the approximate diameter of the earth?
It is approximately **12,742 km**

8 Videos

video

Bibliography

[1] Carsten Dominik. *The Org Mode 7 Reference Manual-Organize your life with GNU Emacs*. Network Theory Ltd., 2010.

[2] Eric Schulte and Dan Davison. "Active Documents With Org-Mode". In: *Computing in Science & Engineering* 13.3 (2011), pp. 66–73.

[3] Luka Stanisic and Arnaud Legrand. "Effective reproducible research with org-mode and git". In: *European Conference on Parallel Processing*. Springer. 2014, pp. 475–486.