function [] = materialise(Transfer\_Functions)

**Contents**

* [Values Proxies](file:///D:\Github\Matlab-Workspace\Thesis%20%28METR4901%29\html\materialise.html#3)
* [Set Values](file:///D:\Github\Matlab-Workspace\Thesis%20%28METR4901%29\html\materialise.html#4)
* [Replace](file:///D:\Github\Matlab-Workspace\Thesis%20%28METR4901%29\html\materialise.html#5)
* [Tidy Up](file:///D:\Github\Matlab-Workspace\Thesis%20%28METR4901%29\html\materialise.html#6)

function [Transfer\_Functions] = materialise(Transfer\_Functions)

verbose = 1;

syms g

syms a1 da1 dda1

syms a2 da2 dda2

syms a3 da3 dda3

syms A1 A2 A3

syms t1\_a1\_T1 t2\_a2\_T2 t3\_a3\_T3

syms l1 l2 l3

syms L1 L2 L3

syms m1 m2 m3

syms Ixx1 Ixx2 Ixx3

syms Iyy1 Iyy2 Iyy3

syms Izz1 Izz2 Izz3

syms T1 T2 T3

t = Transfer\_Functions;

**Values Proxies**

g\_ = 9.81;

a\_Max = pi;

a\_Min = 0;

Angle = a\_Max %a\_Max or a\_Min

**Set Values**

% 1

l1\_ = 1;

L1\_ = 1;

a1\_ = Angle;

da1\_ = 1;

dda1\_ = 1;

Ixx1\_ = 1;

Iyy1\_ = 1;

Izz1\_ = 1;

m1\_ = 1;

% 2

l2\_ = 2;

L2\_ = 2;

a2\_ = Angle;

da2\_ = 2;

dda2\_ = 2;

Ixx2\_ = 2;

Iyy2\_ = 2;

Izz2\_ = 2;

m2\_ = 2;

% 3

l3\_ = 3;

L3\_ = 3;

a3\_ = Angle;

da3\_ = 3;

dda3\_ = 3;

Ixx3\_ = 3;

Iyy3\_ = 3;

Izz3\_ = 3;

m3\_ = 3;

**Replace**

t = subs(t, g, g\_);

%1

t = subs(t, l1, l1\_);

t = subs(t, L1, L1\_);

t = subs(t, a1, a1\_);

t = subs(t, da1, da1\_);

t = subs(t, dda1, dda1\_);

t = subs(t, Ixx1, Ixx1\_);

t = subs(t, Iyy1, Iyy1\_);

t = subs(t, Izz1, Izz1\_);

t = subs(t, m1, m1\_);

%2

t = subs(t, l2, l2\_);

t = subs(t, L2, L2\_);

t = subs(t, a2, a2\_);

t = subs(t, da2, da2\_);

t = subs(t, dda2, dda2\_);

t = subs(t, Ixx2, Ixx2\_);

t = subs(t, Iyy2, Iyy2\_);

t = subs(t, Izz2, Izz2\_);

t = subs(t, m2, m2\_);

%3

t = subs(t, l3, l3\_);

t = subs(t, L3, L3\_);

t = subs(t, a3, a3\_);

t = subs(t, da3, da3\_);

t = subs(t, dda3, dda3\_);

t = subs(t, Ixx3, Ixx3\_);

t = subs(t, Iyy3, Iyy3\_);

t = subs(t, Izz3, Izz3\_);

t = subs(t, m3, m3\_);

**Tidy Up**

Transfer\_Functions = t;

signpost(verbose,'Done: imma\_real\_boy()')

end

[*Published with MATLAB® R2017b*](http://www.mathworks.com/products/matlab/)