
Spar Class

By 6110

```
classdef Spar
    %SPAR Class for Wing Spar
    % The purpose of useing a class is to simplyfy the number of
    % variables sent in function handles in fmincon_handle.m,
    without
    % using global variables that cause a significant slowdown of
    % performance. The other reason was to give the Author
    experiance
    % with object oreinted programming in MATLAB, which is needed
    for the
    % Author's Neural Net
    properties
        w;
        L;
        x0;
        rho;
        Nx;
        E;
        Y;
        A;
        b;
        lb;
        ub;
        NcolPts;
        NpertPts;
    end
    methods
        function obj =Spar(w,L,rho,E,Y,Nx,x0,A,b,lb,ub,NCP,NPP) %
    method to initilizae values.
        obj.w=w; % plane weight
        obj.L=L; % spar length
        obj.rho=rho; % density
        obj.E=E; % Youngs mod
        obj.Y=Y; % yeild stress
        obj.Nx=Nx; % number of nodes
        obj.x0=x0; % inital geometry
        obj.A=A; % bound
        obj.b=b; % bound
        obj.lb=lb; % lower bound
        obj.ub=ub; % upper bound
        obj.NcolPts=NCP; % Number of Collection points
        obj.NpertPts=NPP;
    end
    end
end
```

Published with MATLAB® R2018b