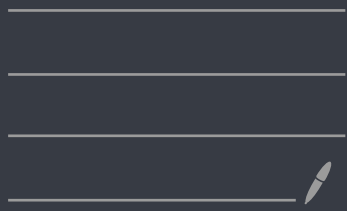
Project #1 Notes



run_opt.m

% conduct the opt.

- define parameters (Temp water, Nx, Ny, ...)
- fmincon options get set
- define initial design, a_0
- define (anonymous) obj func.
- define or call func. that defines Aeq, beq
- call fmincon
- plot / display results from fmincon

objective.m

% compute inverse heat flux

[f] = objective(a, Nx, Ny, ...

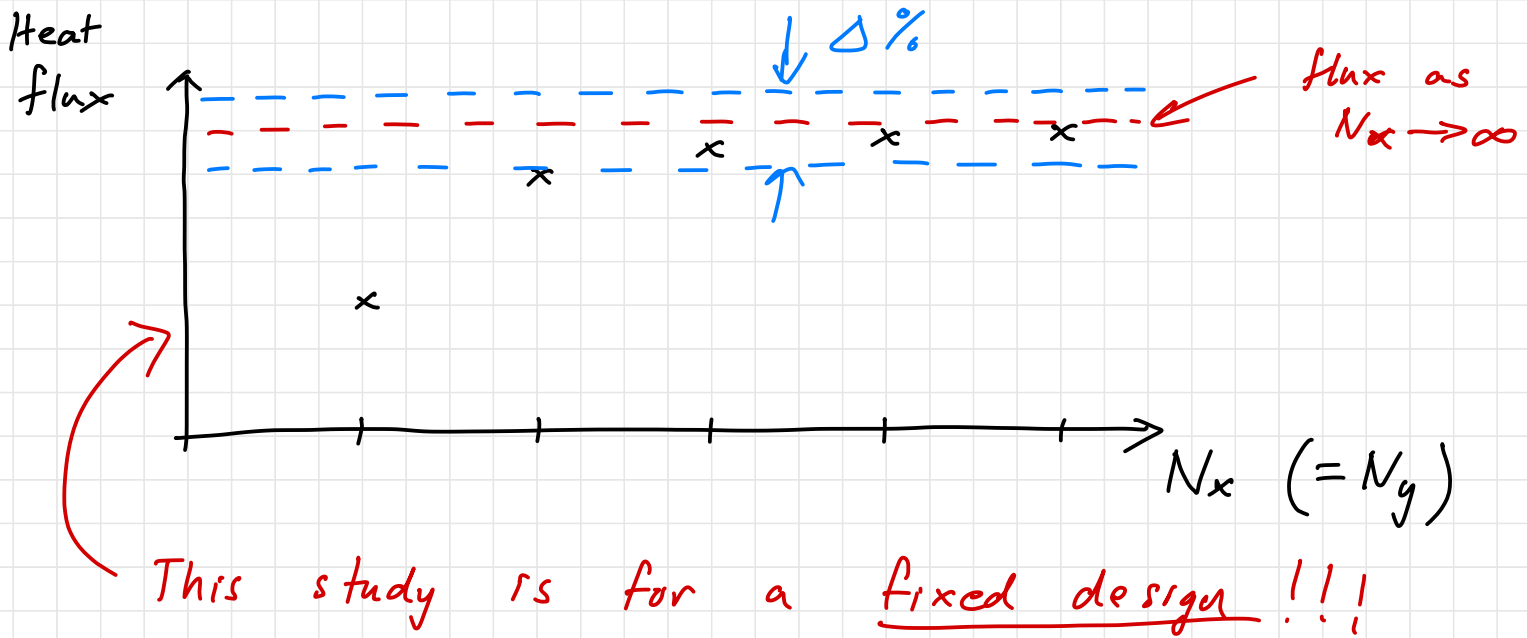
h = calcheight(a, L, ...)

[flux, ~, ~, ~] = calcFlux( )

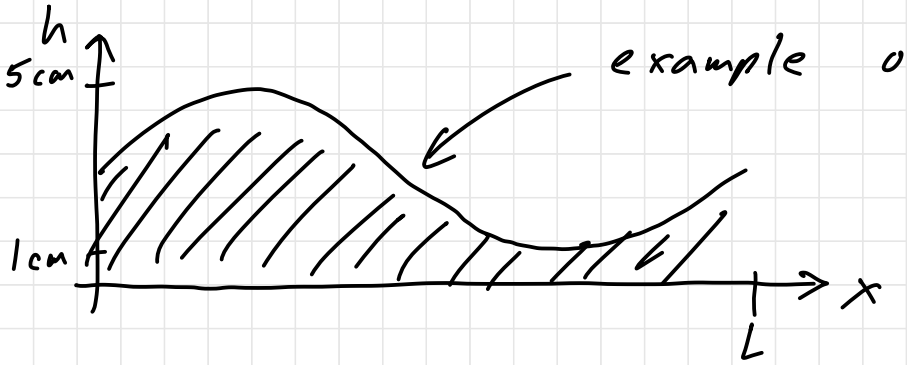
f = 1/flux

calcheight.m

% calculates the height array based on a design var array

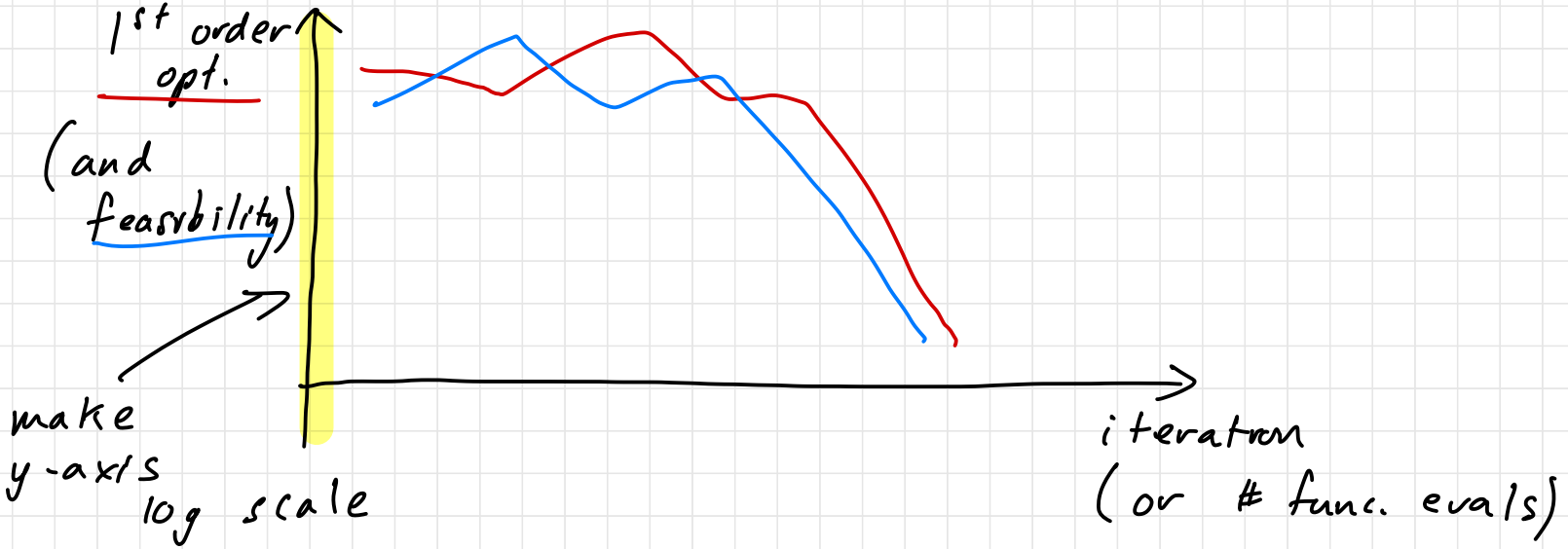


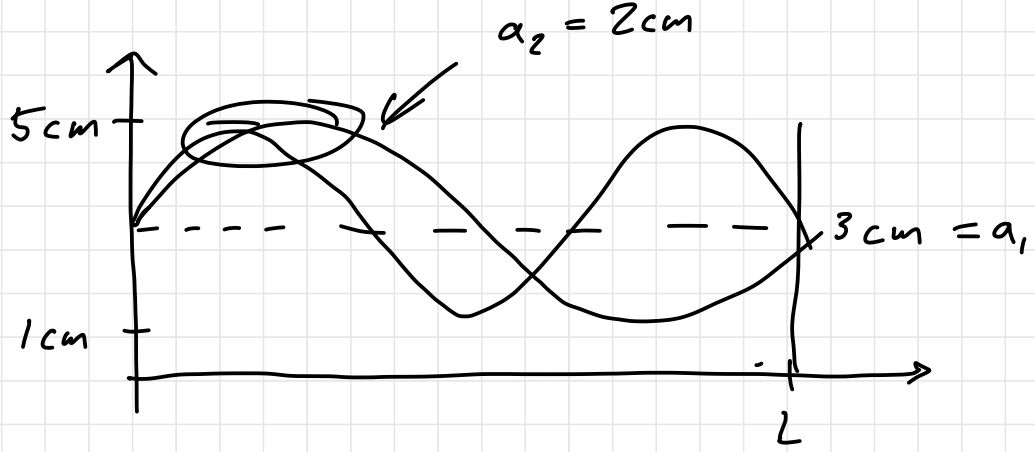
This study is for a fixed design !!!



example of a fixed/frozen design

Optimization Convergence / History Plot




$a_2 = 2cm$
5cm
1cm
3cm $= a_1$
L