Essentially, we need to:

- Calculate the time derivative of the vector of disturbance variables
- Calculate new vector of disturbances from old
- Calculate magnitudes of disturbances
- use a plot of the log of this magnitude against time to find the growth rate, λ

I am thinking that I will use variables which still contain the time dependence:

$$(v_x, v_y, v_z) = (U, V, W) + (\delta u(t), \delta v(t), \delta w(t))e^{ikx} \tag{1}$$

$$T_{ij} = C_{ij} + \delta c_{ij}(t)e^{ikx} \tag{2}$$

The main problem is working out how to deal with the equations and boundary conditions which do not contain a time derivative.

I remember you told me something about this but I have forgotten what it was! I can't see how to solve them separately from the other equations because there are more unknowns than equations, and I cannot solve them with the other equations because they set the time derivatives of u,v,w,p to zero.