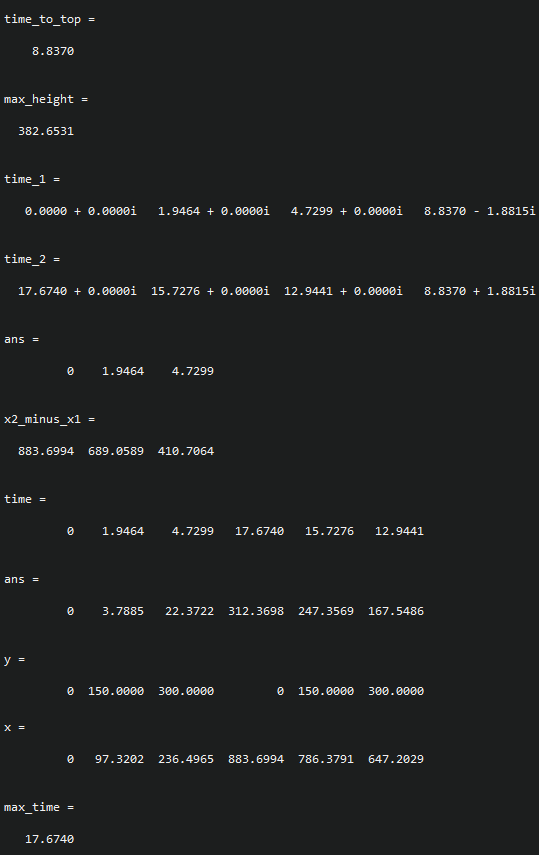


**Report for Programming Lab #4**

Charles Daigle

**Bala Maheswaran**

**Code Outputs**

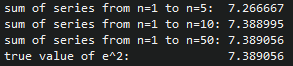
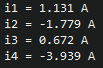
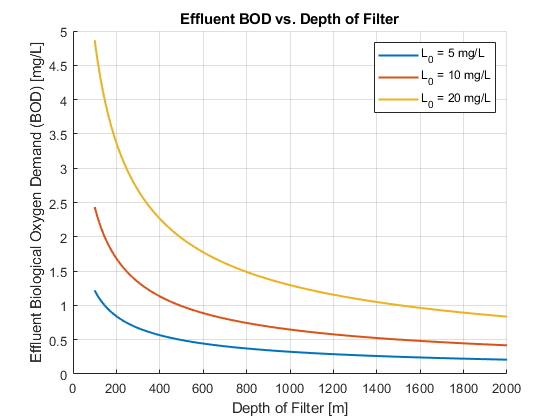
1. 

Chart, scatter chart

Description automatically generatedChart, line chart

Description automatically generatedChart, line chart

Description automatically generated

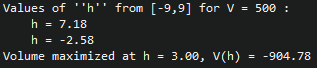
1. 
2. 
3. 

Given the above graph, we decide that water is drinkable at the first depth of filter where the effluent BOD (effBOD) is “flat” ; that is, where the effBOD decreases by a maximum of 0.15 mg/L by the time the depth reaches 2000m.

* 5 mg/L : **850 m**
* 10 mg/L : **1235 m**
* 20 mg/L : **1545 m**

1. Chart, line chart

   Description automatically generated



**Results/Discussion**

In this lab, MATLAB was introduced. The new concept of plotting was explored, and there was a greater emphasis on computation and numerical analysis. When I was plotting, I found it much better looking to use a ‘LineWidth’ of 1.5 instead of the default – the thicker line shows up better when the graph is downsized. I read quite a bit of the MATLAB documentation, and found a few very useful tools; firstly, symbols and symbolic expressions. This allows you to use placeholder variables that don’t have a value. This is especially useful when combined with an anonymous function that can be stored in a variable – I used this to define quick expression variables that didn’t need a full formal declaration. I also used ‘arrayfun’ to apply a function across an array – very useful.