METU - Civil Engineering Department
CE464 GROUND IMPROVEMENT
Fall 2016, Asst. Prof. Nejan Huvaj Sarıhan

HOMEWORK - BONUS
(+3% to your total CE464 course grade out of 100).
Due on: 6 January 2017 at 23:59.
(submit to Nejan Huvaj's office and explain how you thought and prepared the code)

You can work in groups of max. 2 people. Write a code (Matlab, C++ etc.) that calculates the compression index, C_c, and preconsolidation pressure, σ'_p, of a clay, using laboratory 1-D consolidation test data.

The code will take input data as a *.txt file, the first column of the txt file will be void ratio, the second column will be effective vertical stress (in kPa). The given data will not include unloading-reloading parts, it will only include loading data.

Code should give as the output :

(1) Plot of the given data points in e-log σ'_v and a lines/curve passing through the data points (you don't need to show lines that are used for σ'_p calculation)

(2) Compression index, C_c = …. , Preconsolidation pressure, σ'_p = ….. kPa

You can try your code with the example problem we worked on in class (only the loading part, and up to about 3000 kPa vertical effective stress).