

## Engineering 1D04

### Assignment X

The following is due at the **BEGINNING** of the tutorial (JHE/317-319) the week of March 31 to April 4, 2003:

- 1) A printout of the C code implementation of the pseudo-code from the previous assignment. The C code should have appropriate comments and indentation.
- 2) The output file as produced by the C program using the given input file. The input file is named *data.txt* and it is available in the Eng 1D04 course folder in the folder *Assig10\_data*.
- 3) The screen output of the C program using the given input file. (See the 1D04 web-site for information on how to capture program output.)
- 4) The pseudo-code that the C code is based on (with fixes). Place your pseudo-code as an appendix at the back of the assignment.

NOTE: Please include your tutorial number on every assignment. Also, remember that at the top of the first page of every assignment the following must be included:

“This assignment represents my own work”,

followed by your signature, and your e-mail address. You need to include this information, or your assignment mark will be ZERO. Late assignments should be taken to the Drop-In-Centre (ITB/101). Late assignments will not be accepted after 4:30 on the day of your tutorial.

### Problem

The problem was described in the previous assignment. Write a C program based on the pseudo-code that you developed for the previous assignment.

### Numerical application

Using the given input file (*data.txt*), produce screen output and an output file that presents the output as stated in assignment #9 (d, e). Use  $t_0=60s$  and  $\Delta t=0.1s$  as input values for the file.

### BONUS

You can get a bonus (+1% on your final grade calculation) if the final report for Assignment 10 includes a graph of wind velocity versus time or acceleration of a dust particle versus time (for the entire data file *data.txt*) together with a few sentences describing the graph. You can choose any reasonable starting time and time interval to calculate the times. You can make the graph using any software package (Excel, Quattro-Pro, Matlab, etc.). The plot is to include text (as part of the printout, not handwritten) that gives your name and student number.

Label the graph appropriately as well.