Engineering 1D04
Assignment VIII

The following is due at the **BEGINNING** of the tutorial (JHE/319) the week of March 17 - 21, 2003:

1) A printout of the C code implementation of the pseudo-code from the previous assignment. The C code must have appropriate comments and indentation.
2) The output of the C program including at least 3 good test cases. (See the 1D04 website for information on how to capture program output.)
3) 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. Remember that the top-page of every assignment is to include the statement:

"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.

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

You are given the following 10 data points of velocity values:

i =	1	2	3	4	5	6	7	8	9	10
Wind Velocity w_i (m/s)	0.97	1.22	2.00	1.87	3.24	4.01	5.04	7.02	4.11	2.65

Use your C program to do the following:

(i) Read in (from the user) the initial time $t_0 = 60$s when the measurements started, time step $\Delta t = 0.1$s, and all of the velocity values (that were given to you);
(ii) Output a table showing the time, wind velocity, acceleration, surface drift current, and surface conditions (as described in previous assignment);
(iii) Repeat the above computations using 2 other sets of your own test cases.