Exercises

Day 5

Exercise #5

- Extend the program written in the previous exercises by (choose one task):
  - Write a routine to read the parameters defining the problem (Nx,Ny,D,nstep,dt) from an external file. Use the syntax: <keyword> = <value>. The reader should accept empty lines and any order of the input.
  - Write a “restart” file to allow the code to restart (resume) from a previous simulation. To allow a glitch-free restart you need to write the file in binary format (unformatted). Instrument your init() routine to read the restart file.

Exercise #5

- Hints:
  - Input file for simulation control:
    - Read the file using READ(10,'(A)',END=100) cbuf.
    - Skip empty lines: LEN_TRIM(cbuf).EQ.0.
    - Use the INDEX() function to search for "=" in cbuf.
    - Split cbuf in two strings: keyword = cbuf(1:i-1) and cvalue = cbuf(i+1:ilen), where i = INDEX(…).
    - Convert cvalue to the appropriate type (INTEGER, REAL, …) using fx READ(cbuf(…),*) dx
  - Restart:
    - Make sure you write all the relevant data in binary format at the proper point in the time step loop to allow bit identical restart.