Exercise: A Very Simple Exercise for Using NetCDF

1. If you haven't already, install NetCDF, using the instructions in the document "Building NetCDF."
2. From the directory from which you built NetCDF, go into the subdirectory named `examples`:

   `cd examples`
3. Choose your preferred programming language (among those available) and go into that directory; for example:

   `cd C`
4. Create a subdirectory of your home directory named `Original`:

   `mkdir Original`
5. Copy all of the source files into that new directory, so that you have the originals to refer back to, just in case; for example:

   `cp *.c Original`
6. Any file whose name ends with the extension `.nc` (dot nc) files are not readable. But, we can convert them into a text file. Next we are going to convert `simple_xy.nc` into `simple_xy.txt` using the `ncdump` command. Do the following:

   `../../ncdump/ncdump simple_xy.nc > simple_xy.txt`
7. Look at content of the `simple_xy.txt` using the `cat` command:

   `cat simple_xy.txt`
8. Using your preferred text editor (for example, `vi`, `emacs`, `nano`), edit `simple_xy_wr.c` to change the formula for calculating `data_out` to:

   `data_out[x][y] = x * NY + y * NX;`
9. **Note**: In order to know all NetCDF commands you might want to look at the NetCDF full documentation.
10. Once you've edited your source file, compile, linking to the NetCDF library:

    `make simple_xy_wr`
11. Run the test program:

    `simple_xy_wr`
12. You can examine the contents of the output file using the `ncdump` utility:

    `../../build/bin/ncdump simple_xy.nc > simple_xy2.txt`
13. Look at the content of both `.txt` files:

    `cat simple_xy.txt`
    `cat simple_xy2.txt`
14. Repeat the above steps (8 through 13), but this time you should change the name of `data_out` to `temperature` (i.e., temperature as a function of x and y).