A Very Simple Exercise for Using NetCDF

Note: Things that you should type are in the **`computer boldface`** font.

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 more command:

   `more 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:

    `more simple_xy.txt`
    `more 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).