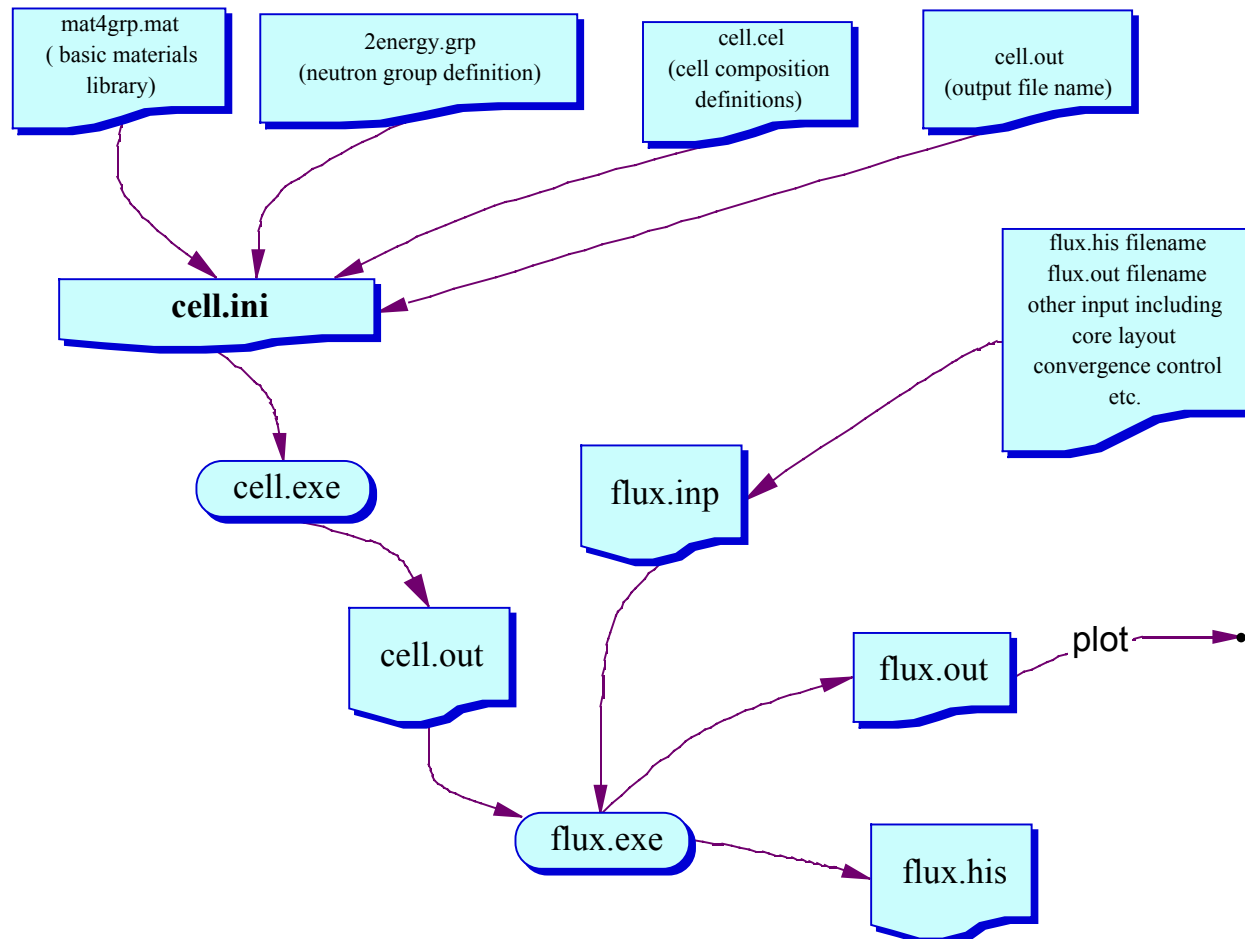


The general idea is to use CELL.EXE to create the properties for cells, such as a fuel cell, a moderator cell, etc based on a materials library (mat4grp.mat). These cells are used as building blocks for a core. FLUX.EXE calculates the flux for that core.

Cell and Flux codes - data flow



An input file is required to define the files that are needed for the cell code, CELL.EXE, which are:

- materials library
- group structure
- cell definition (20 % water, 80% U235, or whatever) cell output filename.

A sample file, cell.ini, containing the files names, is included.

To run the cell code, type :

```
cell cell.ini
```

The output file contains the cell cross sections in the correct format for input to FLUX.EXE.

Adjust the numbers to match the fictitious numbers of the assignment if necessary. Check to make sure that the numbers make sense Then, to generate the flux distribution, run:

flux cell.out flux.inp

The file flux.inp contains the input data (other than cell definitions) for the flux code (program control, geometry and output filenames). The flux output files contains flux profile data that can be imported into a spreadsheet for plotting.

By varying the input data you should be able to simulate steady state and transient for fixed sources and / or cores containing fuel in 1 or 2 dimensions.