Project-3

- **Write a multi-block solver for your simulation problem that will run on a single processor**
  - This is an intermediate step prior to distributing the blocks over P-processors and adding message-passing to allow parallel computing
  - Use the data structure and boundary-condition data files that you constructed under Project-2
  - Use one of the methods ("on the fly", "accumulation operators", or "halo/ghost cells") to deal with inter-block boundaries
- **This code should read the multi-block grid plot3d (or other format) files along with the connectivity file, initialize the temperature (or read a multi-block initial temperature file), and run.**
- **Demonstrate that you can get the same solution and approximately the same convergence as the 501x501 Dirichlet Project 1 solution with the 10x10 decompositions that you generated in Project-2**

Project-3

- **Due Thursday, November 5th**
  - A description of your equations, program, and method for dealing with neighbor information
  - A listing of your multi-block simulation code for the single processor
  - A plot of your multi-block (10x10 block) solution for the 501x501 point sheet metal problem
  - A direct comparison of your convergence rates between the single-block and multi-block (10x10 block) solvers for the 501x501 plate problem. *A plot of the single-block and multi-block convergence histories is required*.
  - A direct comparison of your solution times between the single-block and multi-block (10x10 block) solvers for the 501x501 plate problem. Use HPC1 for both! You are allowed to make improvements to your project-1 solver).