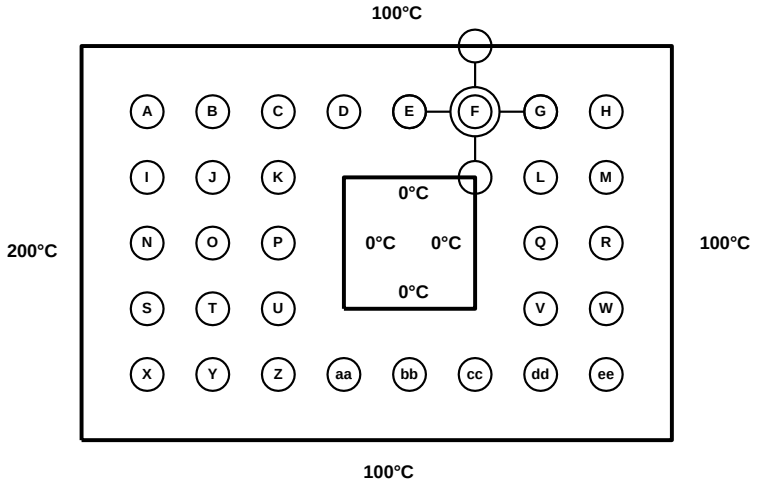
Outcomes Assessment: Computer Project

The conductive heat transfer project is a required component of CHBE 322, a course taken by all CHBE majors. I am including the project in the student portfolio as an example of a computer-based project. It is intended to provide assessment data relevant to program outcome **k**.

> k. …ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

Problem

The students (juniors) were asked to solve the same 2d conduction problem to obtain 2d temperature distributions using Excel, Mathcad, and COMSOL.



The students were then asked to show their ability to go beyond the original assignment by modifying the system geometry (their choice) and solving for the new temperature distribution using COMSOL.

Process

There are 6 projects, randomly pulled from a class of about 30. You are each asked to review 2.

After reviewing your first project, swap with another reviewer; this will allow us to compare the results of different reviewers on the same project. It is not essential that all of the projects are reviewed.

After reviewing two projects there will be a time for discussion; then the committee will be asked:

1. To what extent we are meeting outcome **k** , based on the evidence in the projects?
2. How useful are the projects in assessing outcomes **k**?
3. How useful is the assessment rubric in performing the assessment?