

- 1) Make sure that the folder elmer.gid is copied in \GiD\ProblemTypes. Then, "elmer" should be a valid problem type for GiD and visible in Data -> Problem type.
- 2) Invoke GiD and choose File -> New
- 3) Create a square: Geometry -> Create -> Object -> Rectangle. Give:  
First corner point: 0 0  
Second corner point: 1 1
- 4) Right-click the mouse and choose a) Render -> Flat lighting b) Rotate -> Trackball. Select a nice view point and give the command "zoom frame".
- 5) Choose Data -> Problem type -> elmer
- 6) Assigning boundary conditions to the boundary lines by choosing Data -> Condition. Select "LineCondition" with Index=1 and assign it to all four boundary lines of the rectangle. NOTE: Only the boundary elements with Index>0 will be written in the mesh file "mesh.boundary".
- 7) Choose Data -> Materials and assign Index=1 to the surface of the rectangle. NOTE: Only the bulk elements with material Index>0 will be written in the mesh file "mesh.elements".
- 8) Set Utilities -> Preferences -> Meshing -> Mesh always by default: lines  
This option is needed to generate the mesh.boundary file.
- 9) Select Meshing -> Generate. Give size=0.14. As a result, we should get 28 linear boundary elements, 104 triangular bulk elements, and 67 nodes.
- 10) Save the project: File -> Save as.
- 11) Save the mesh in elmer-format by choosing Calculate -> Calculate. The mesh.\* files written by GiD can be found from the project-folder.

- 1) Make sure that the folder elmer.gid is copied in \GiD\ProblemTypes. Then, "elmer" should be a valid problem type for GiD and visible in Data -> Problem type.
- 2) Invoke GiD and choose File -> New
- 3) Create a cylinder: Geometry -> Create -> Object -> Cylinder. Give:
  - Center for the base: 0 0 0
  - Normal for the base: Positive x
  - Radius for the base: 0.1
  - Height: 1
- 4) Right-click the mouse and choose a) Render -> Flat lighting b) Rotate -> Trackball. Select a nice view point and give the command "zoom frame".
- 5) Choose Data -> Problem type -> elmer
- 6) Assign boundary conditions to the surfaces by choosing Data -> Condition. Select "SurfaceCondition" with Index=1 and assign it to any one of the three surfaces. Then assign Index=2 to any one of the two remaining surfaces. Finally, assign Index=3 to the last surface. NOTE: Only the boundary elements on surfaces with Index>0 will be written in the mesh file "mesh.boundary".
- 7) Choose Data -> Materials and assign Index=1 to the volume of the cylinder. NOTE: Only the bulk elements with material Index>0 will be written in the mesh file "mesh.elements".
- 8) Set Utilities -> Preferences -> Meshing -> Mesh always by default: surfaces This option is needed to generate the mesh.boundary file.
- 9) Select Meshing -> Generate. Give size=0.1. As a result, we should get 216 triangular boundary elements, 289 tetrahedra bulk elements, and 122 nodes.
- 10) Save the project: File -> Save as
- 11) Save the mesh in elmer-format by choosing Calculate -> Calculate. The mesh.\* files written by GiD can be found from the project-folder.