Lab 1: Visualization
Goals

Dataset Creation
Visualization
Clipping
More Visualization
What You Need To Know...

Dataflow
- Making / saving / loading a network
- Creating and connecting modules
- Execution model
- User interfaces

Categories
Visualization Pipeline
- Generate geometry
  - Isosurface, FieldBoundary, Streamlines
- Define data values on geometry
  - ManageFieldData, TransformFieldData, DirectMapping, ApplyMappingMatrix
- Choose colors and shapes for rendering
  - GenStandardColorMap, RescaleColorMap
  - ShowField: nodes/edges/faces, scalar/vector/tensor

Viewer
- See User Guide Tutorial
Instructions

Dataset Creation
- 3D Volume (SCIRun::FieldsCreate::SampleLattice)
- Assign data values (SCIRun::FieldsData::TransformFieldData)

Visualization
- Bounding box (SCIRun::FieldsOther::FieldCage)
- Isosurface (SCIRun::Visualization::Isosurface)
- Slice (SCIRun::FieldsCreate::FieldSlicer, SCIRun::Visualization::ShowField)

Clipping
- Turn into Hex Mesh (SCIRun::FieldsGeometry::Unstructure)
- Clip to some function (SCIRun::FieldsCreate::ClipByFunction)

More Visualization
- FieldBoundary (SCIRun::FieldsCreate::FieldBoundary)
- Extra credit:
  - Look at a slice in ‘z’ (TransformFieldData (‘v=z’), Isosurface, ManageFieldData, ShowField, GenStandardColorMap, RescaleColorMap)
  - Make a movie
  - …