Question 7

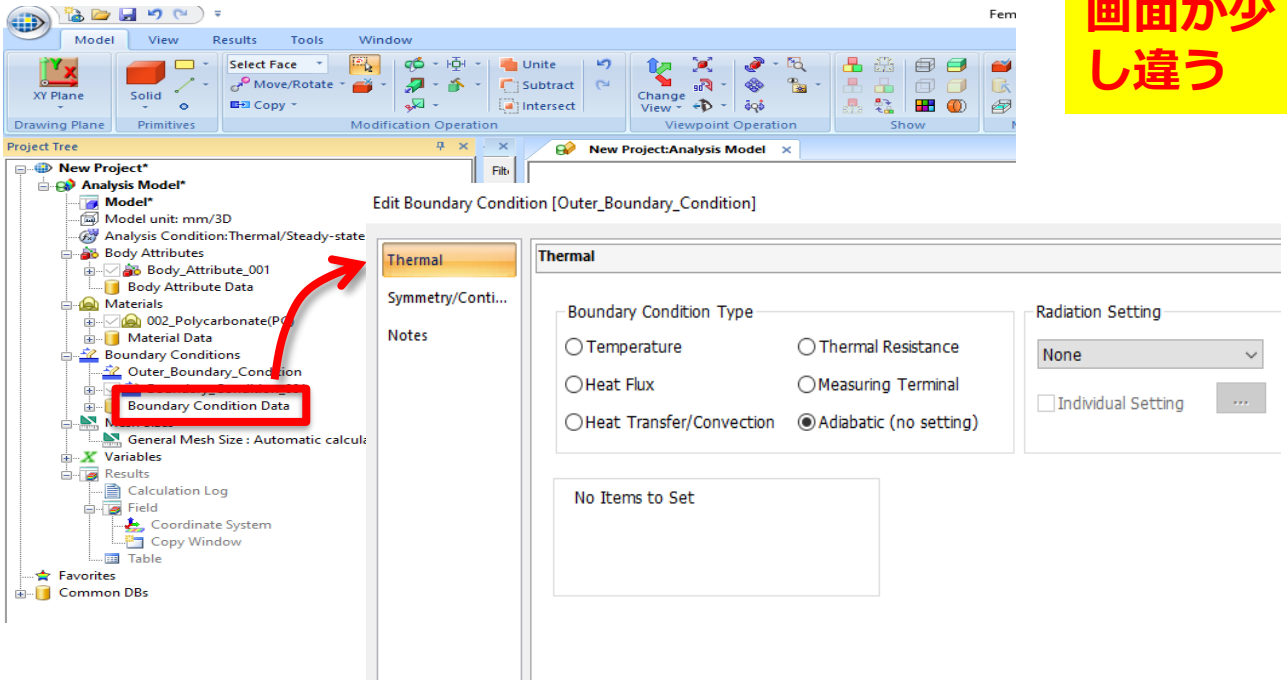
Q: What is the outer boundary condition?

A: By using the outer boundary condition, Femtet will automatically set a specified boundary condition to the outermost faces where no boundary conditions are set.
On the faces where boundary conditions have been specifically set, those boundary conditions are prioritized over the outer boundary condition.

Outer Boundary Condition

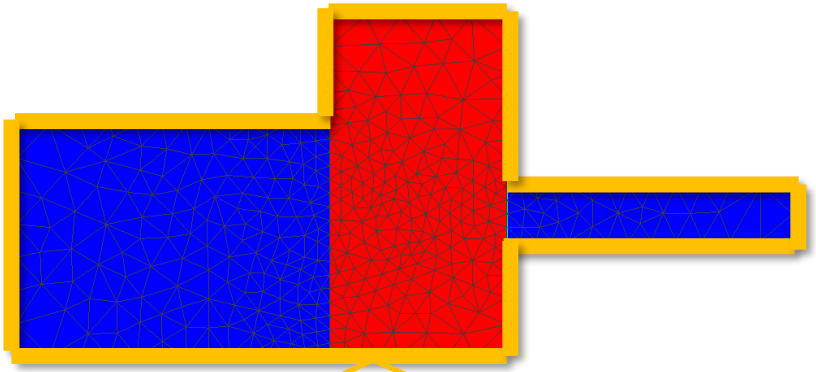
Murata Software

画面が少し違う



Outer Boundary Condition (Default Boundary Condition)

Murata Software



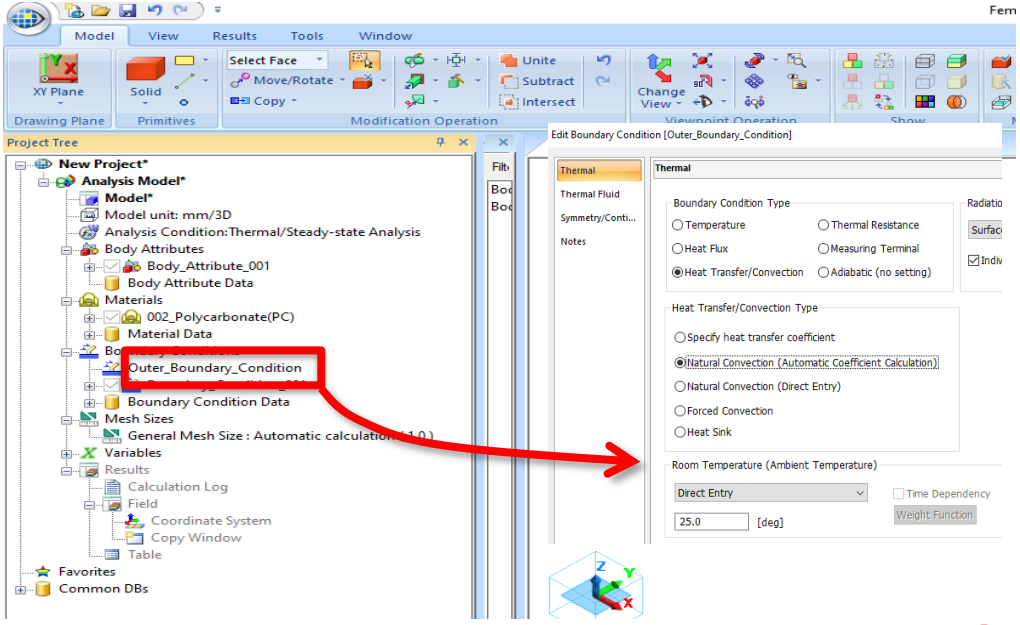
The finite element method requires all the outermost faces of a model to be set with boundary conditions.

If users had to set boundary conditions to all the outermost faces, the setting would be troublesome to the users.

To avoid this problem, Femtet is designed to set the outer boundary condition to the outermost faces where boundary conditions are not set.

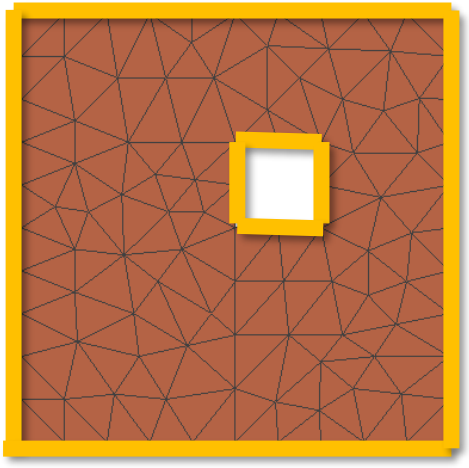
Outer Boundary Condition (Default Boundary Condition)

Murata Software



For instance, the heat transfer boundary is easily set.

Note: Outer Boundary Condition



Edges where outer boundary conditions will be set

If any boundary condition is not set to the circumference of the inner hole, the outer boundary condition will be set thereto.
If the faces or edges are not in contact with other bodies and not set with any boundary conditions, the outer boundary condition will be applied to them.