



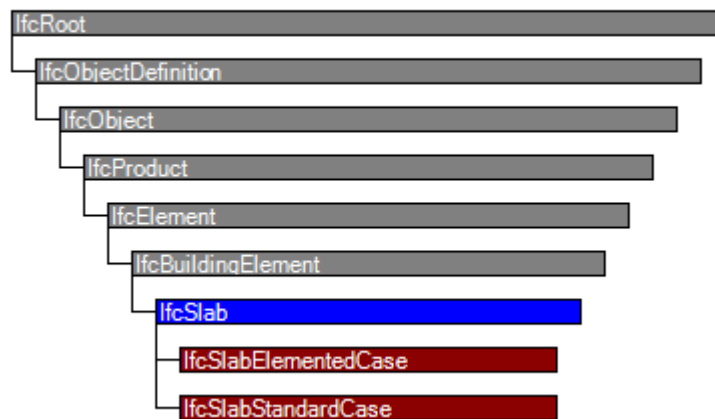
IFC as a data exchange format

Assignment Solution

1. Explain the entity inheritance structure of the roof, starting with the IfcRoot.

- a. Enter the IFC file using the usBIM.viewer.
- b. Click on the roof and note the name of the entity or the GlobalId
- c. Open the ifc file in a text editor
- d. Search for the roof in the ifc file by using the name and/or GlobalId
#59753= IFCSLAB('2IxUUNUVPB6Ob\$eicCfP2N',#12,'Dach-
2',\$,\$,#59716,#59749,'BD6D9414-37DF-40A8-88-40-301A32A9A5B5',.ROOF.);
- e. Open the IFC documentation and search for the entity type IFCSLAB
- f. The entity inheritance structure is

Entity inheritance



2. An Alternative solution is by using FreeCAD software
 - a. Import the OFC file to FreeCAD
 - b. Click on the roof. The panel on the left side then shows the Step ID is 59753 and the Class is IfcSlab.
 - c. The follow the same procedure as in point 1 above.



3. Describe the attributes of the roof by specifying the attribute names and their values. Links to other entities may be specified by using the '#'-sign and their entity number.

- a. From IfcRoot we get the attributes GlobalId, OwnerHistory, Name and Description
- b. From IfcObjectDefinition we get no attribute
- c. From IfcObject we get ObjectType
- d. From IfcProduct we get ObjectPlacement and Representation
- e. From IfcElement we get Tag
- f. From IfcBuildingElement we get no attribute
- g. From IfcSlab we get PredefinedType
- h. The total set of attributes is then
 1. GlobalId = '2IxUUNUVPB6Ob\$eicCfP2N'
 2. OwnerHistory = #12
 3. Name = 'Dach-2'
 4. Description = N/A
 5. ObjectType = N/A
 6. ObjectPlacement = #59716
 7. Representation = #59749
 8. Tag = 'BD6D9414-37DF-40A8-88-40-301A32A9A5B5'
 9. PredefinedType = .ROOF.