

C++ code 2.7.2: (Skeleton) Implementation of the LEHRFEM++ function `flagEntitiesOnBoundary()`

```
1 CodimMeshDataSet<bool> flagEntitiesOnBoundary(
2     const std::shared_ptr<const Mesh>& mesh_p, If::base::dim_t codim) {
3     // count cells adjacent to entities of co-dimension 1
4     CodimMeshDataSet<If::base::size_type> no_adjacent_cells{
5         CountNumSuperEntities(mesh_p, 1, 1)};
6     // flag array
7     CodimMeshDataSet<bool> bd_flags{mesh_p, codim, false};
8     // relative codimension with respect to faces (entities of
9     co-dimension 1)
10    const If::base::dim_t rel_codim = codim - 1;
11    // Run through faces and flag sub-entities
12    for (const If::mesh::Entity *edge_p : mesh_p->Entities(1)) {
13        if (no_adjacent_cells(*edge_p) == 1) {
14            // Boundary face detected!
15            // Traverse all sub-entities of a specific relative co-dimension
16            for (const If::mesh::Entity* subent : edge->SubEntities(rel_codim)) {
17                bd_flags(*subent) = true;
18            }
19        }
20    }
21    return bd_flags;
22 }
```