3D/C++ programming test

The goal of this test is to assess the quality of your code. Your solution serves as a starting point for a more thorough technical discussion during the interview.

Requirements

Create a small program that implements a mesh slicing algorithm. The slicing algorithm takes a triangle mesh and the description of a 3D plane and adds edges to the mesh where plane and mesh intersect. More specifically each triangle that intersects with the mesh should be cut by the plane and re-triangulated. The parts of the mesh on both sides of the plane should stay connected.

Please make sure the solution is cross-platform. The program should take Wavefront OBJ files as input for the mesh and a JSON file for the normal with the following layout:

{

 "origin" : [Ox , Oy, Oz],

 "normal" : [Nx , Ny, Nz],

}

where origin and normal are a point on the plane and its normal respectively.

Good luck!