

# Points In Mesh Project

## Objective

You are given two files: a mesh and a set of points. Your task is to write an algorithm which determines which points are inside and which points are outside of the mesh.

Your solution should be implemented in C++. You may use the OS and toolchain of your choice, and you are free to research algorithms on google. However, all of the code must be your own, and you may not use any specialized geometry libraries or downloaded code. Standard container classes are fine to use.

## Requirements

- Your program must read and parse both the points file and the mesh file. The mesh file is in ascii OBJ format.
- Your program will generate and output a list of all points which are inside the mesh.

## Optional nice-to-haves

- make it fast !
- UI to display the mesh and points in 3D

## Outputs

Your solution should include the following:

- Source code that can build on either Linux or Windows.
- Sample output of points from the data provided
- Specification document describing your implementation

In your document, you should discuss the algorithm that you chose, how you tested it, and performance considerations. If there are limitations with your approach, then discuss what they are and how you could improve it. If you made it run fast, then describe your approach, as well as what more could be done.

After you've submitted your solution, be prepared to present and discuss your work.