

Programming-2

CPP Assignment 3

Implementation: -

1. To build project, use command make
 2. The executable is built. Then use command `./assignment3 <input_file_name> <output_file_name>`
 3. Sample input file is given as input.txt
 4. Use make clean command after this.
 5. Id: commands also given in split file
- Note: -Sample input file(input.txt), split file(splitfile.txt) is provided along with its generated output file(output.txt).

Assumptions: -

- Output, is first printed without a split, then after each split, then the face ids.
- Numbering format for splits: - prerequisite: - Edges is a vector of objects of class Edge which contains a Twin Edge, Half edge and id.
The HalfEdge and TwinEdge have face ids.
I have a variable which stores number of faces
A variable is iterated from 0 till number of faces - 1.
For each, I find the first edge in the edge list with a half edge and twin edge with its matching face id and then starting from there until all the edges in the face are printed.
To sum it up, I start from face 0 till how many faces are there. For each face, the edge with least id lying in that face is found and from there a clockwise cyclic face is printed.
- I am considering split to occur only across a face(common face). For such a split, the program works and supports unlimited splits.
- Input is taken from a square, not a polygon
- Input in splitfile is taken as Split x_split_variable y_split_variable
- After which, id: x y Note, there is a space between id: and x, the first variable
- Output for face ids are like Id: X
- Program supports any points for face id identification, be it on a edge or a vertex. As long as it lies in the same coordinate system of the figure (2-Dimensional).
- Suppose the point given is a vertex or lies on an edge, then it prints all the faces it belongs to without preference.
- Example output for such case: - Id: X, Y,

IMT2020553,
Abhinav Mahajan.
Abhinav.Mahajan@iiitb.ac.in