Instruction for Assignment One: Cut Graph

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Assignment One: Cut Graph

Task

This C++ project framework is used to help students to implement geometric algorithms. It contains a halfedge data structure library 'MeshLib' and an simple opengl viewer.

System

The code is only tested on Windows, but it should work on Linux and Mac with minor midifications. If there is any problem on the latter two platforms, please let me know.

Dependencies

1. 'MeshLib', a mesh library based on halfedge data structure.
2. 'freeglut', a free-software/open-source alternative to the OpenGL Utility Toolkit (GLUT) library.

Directory Structure

- cutgraph/include, The header files of cut graph
- cutgraph/src, The source files of cut graph algorithm.
- data,Some models.
- CMakeLists.txt, CMake configuration file.
- resources, Some resources needed.
- 3rdparty, MeshLib and freeglut libraries.

Configuration - for windows

Before you start, read README.md carefully, then go three the following procedures, step by step.

1. Install [CMake](https://cmake.org/download/).
2. Download the source code of the C++ framework.
3. Configure and generate the project for Visual Studio.
4. Open the .sln using Visual Studio, and complie the solution.
5. Finish your code in your IDE.
6. Run the executable program.

3. Configure and generate the project

1. open a command window
2. cd CCGHomework
3. mkdir build
4. cd build
5. cmake ..

5. Finish your code in your IDE

- You only need to modify one file: CutGraph.cpp
- search for comments

  $$//insertyourcodehere$$

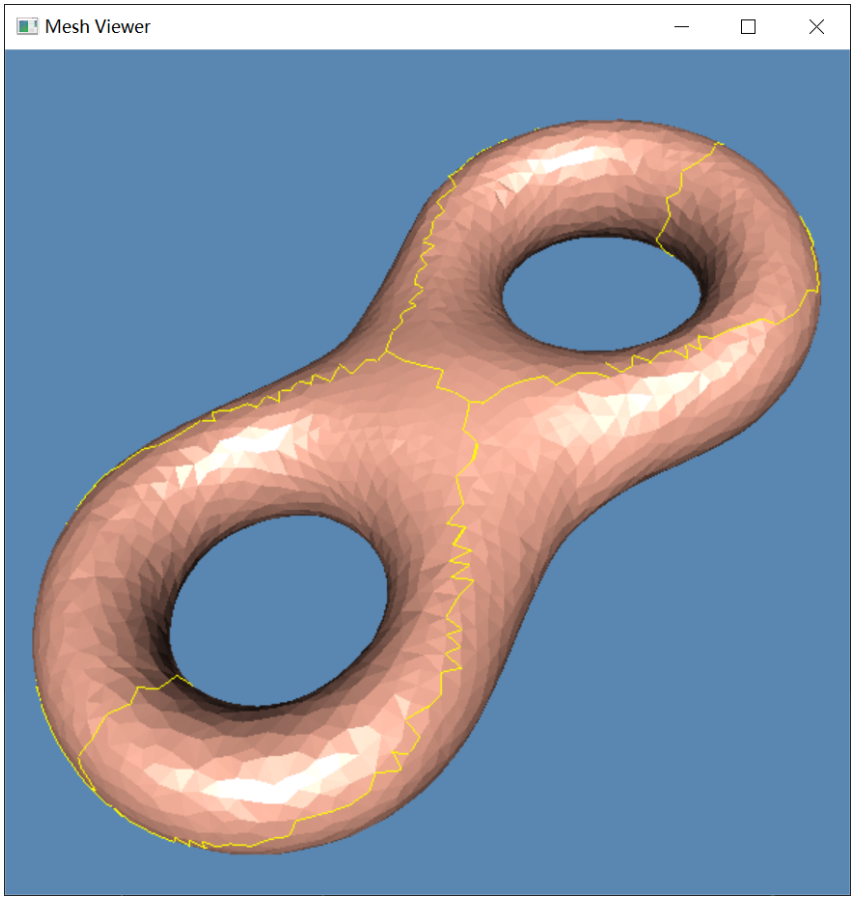
  and insert your code
- Modify

  $$\text{CCutGraph::\_dual\_spanning\_tree()}$$
- Modify

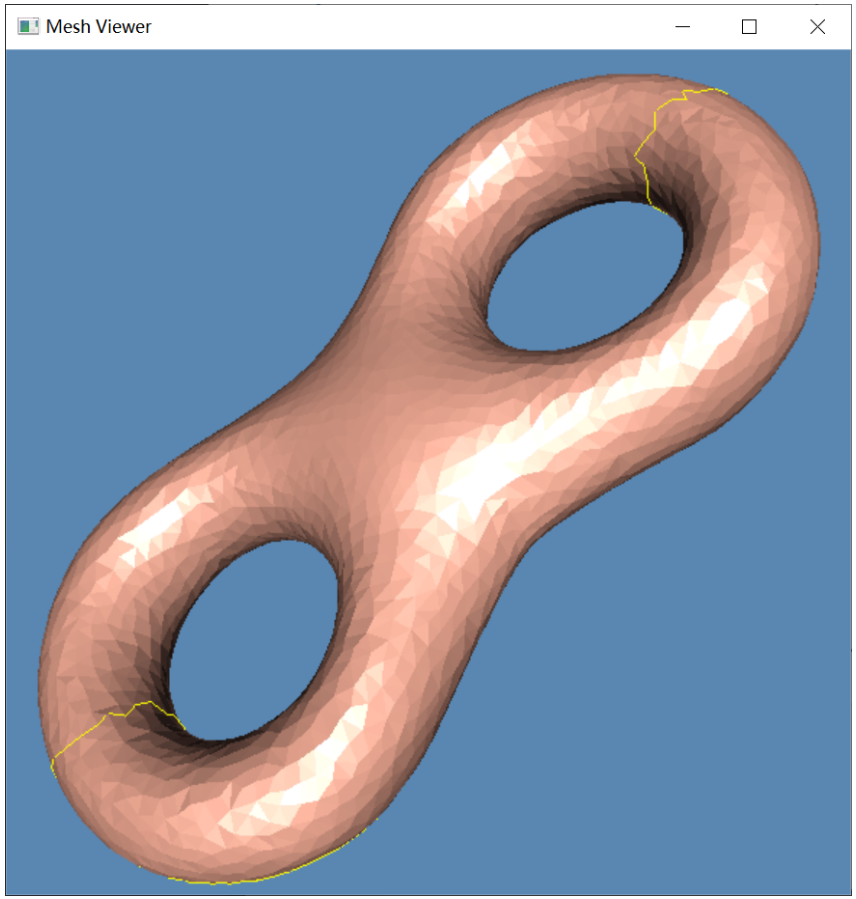
  $$\text{CCutGraph::\_prune()}$$

6 Run the executable program

Command: CutGraph.exe ../../data/eight.m



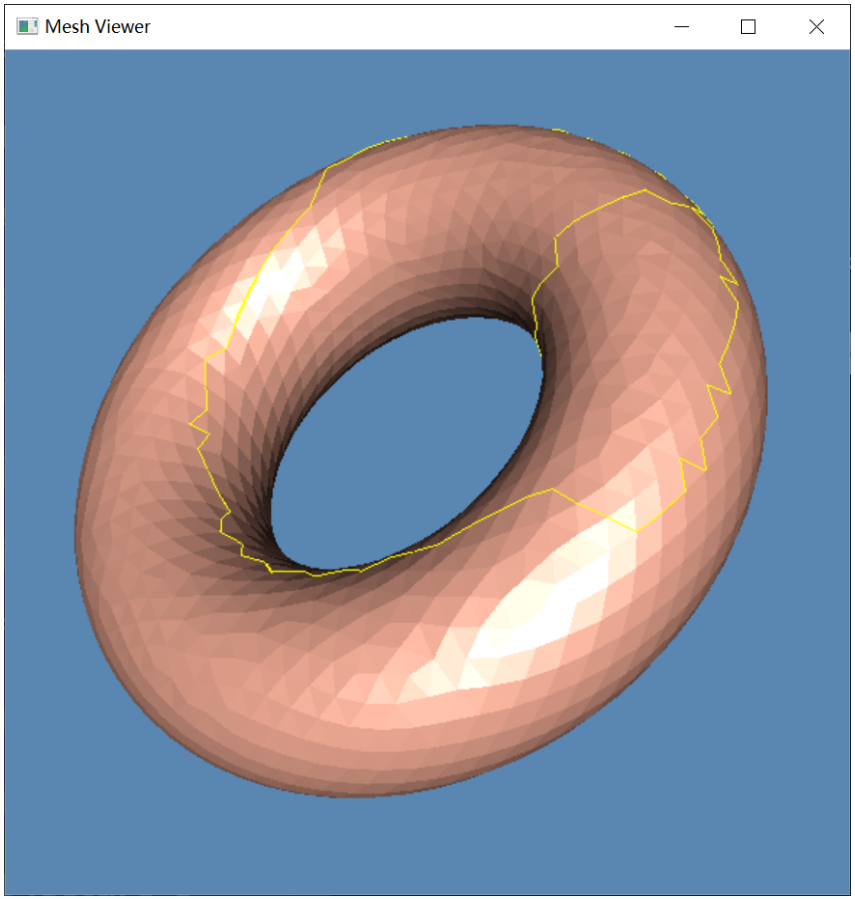
front view



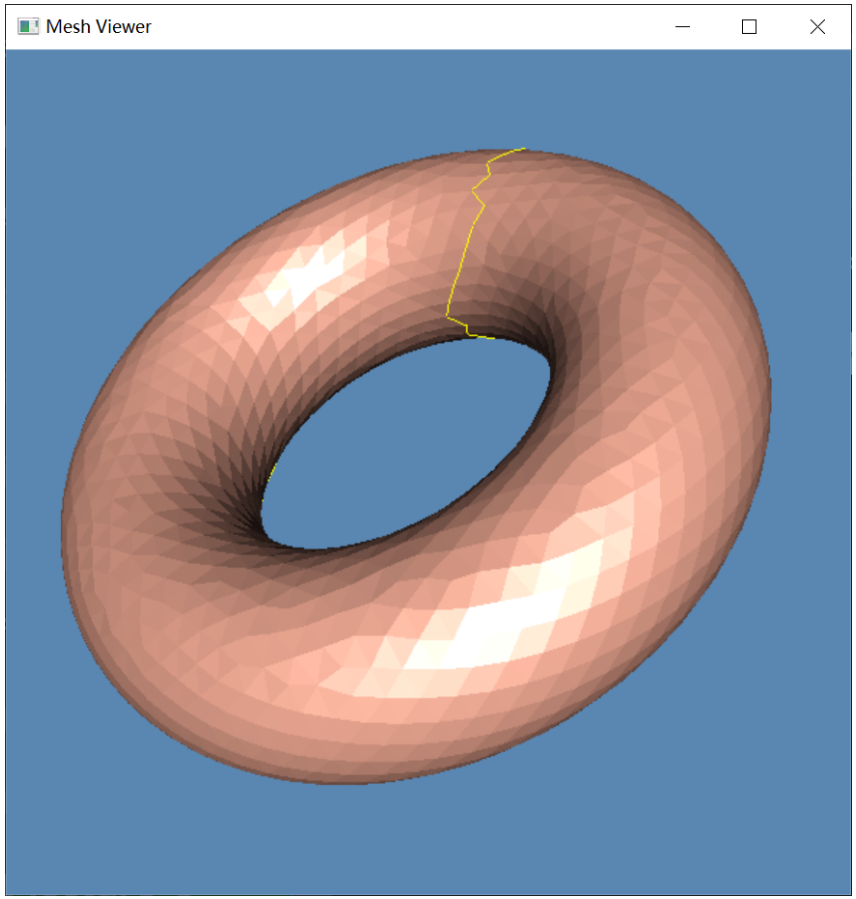
back view

6 Run the executable program

Command: CutGraph.exe ../../data/torus.m



front view



back view