# User document

This is an instruction about how to compile my implementation of Stoer-Wagner’s algorithm and Karger’s algorithm. Just remember all programs should be compiled and used in Windows system because I include headfile <Windows.h> into my program, which is used for running time test.

## How to compile and use programs

1. (Strongly recommend!!) Open the Visual studio 2015 project file “ConsoleApplication1.sln” which existed in the folders “Karger algorithm” and “Stoer-Wagner algorithm” (although their name are same, actually these are two projects which implement different algorithm). And compile the C++ program in the Visual studio 2015. You can run the programs in Visual studio 2015 too. It is easy because you don’t need extra operation. The project file should work in oldest version of Visual Studio like Visual Studio 2014 or Visual Studio 2012, but I never test it.
2. Using g++ to compile: If the computer have already installed g++ complier. You can put the algorithm cpp file and test.txt in the same folder (Those files you can find in the Karger algorithm \ConsoleApplication1 folder or Stoer-Wagner algorithm\ConsoleApplication1 folder). And then open cmd command line and turn to your folder’s address. Then use “g++ -o testprogram xxx.cpp” command to compile c++ program (Notice, xxx will be the name of cpp file! It can be Karger.cpp or Stoer-Wagner.cpp depending which algorithm you want to use). When it finish compiling, then input “testprogram” command, you can see the result in the cmd screen.
3. You can use other c++ compiler to compile c++ file of our implementation. Just make sure you need to put c++ file, test.txt which is test case file and the executable program which is generated after compiling into the same folder

## How to change test case file

I prepare five test cases in the testfile folder. You can select different test case file to replace default test file in project documents (test file is placed in” Karger algorithm \ConsoleApplication1 folder” or “Stoer-Wagner algorithm\ConsoleApplication1” folder ). Default test file is a small weighted undirected graph with 4 vertices and 4 edges.

If you want to run test to evaluate running time, because I use “//” to comment out relative codes, you just remove the comment symbol and then you can run test to get running time of the program.

You also can make your own test case file. I introduce the format of test case file in my project report. If you want to create your own test cases, just follow the description in my project report.