**Instruction for how to Run the Program**

1. Make sure all the files are in the same folder. You can download the files in our github page. And the code is in the datasets/synthetic/Latest\_Code.

2.Download the subgraph searching software. You can download the zip file in our github page as well which is in GtrieScanner(Software)

2.1

For everyone, before you can run the program sucessfully you need to make some modifications by yourself:

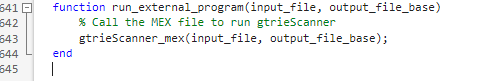
Open the file Random\_Flow\_Sampler.m in line 86, 87.



The base\_path\_newtxt is the path where the new graph’s edge to endpoints txt filw will be genereated

The base\_path\_subtxt is the path where the output files after the software runnig will be generated.

Then go to the buttom which is in line 641-644



This is a function I made to run the external software(cuz it needs to run the command

“the path where the software at/gtrieScanner -s 4 -g input\_file -u -o output\_file\_base.txt -oc output\_file\_base\_sub.txt -f simple.”

Please try to make a simlar function which is looks like:

function run\_external\_program(input\_file, output\_file\_base)

Calling the command in your laptop

“the path where the software at/gtrieScanner -s 4 -g input\_file -u -o output\_file\_base.txt -oc output\_file\_base\_sub.txt -f simple.”

End

The reason why I create the gtrieScanner\_mex file is because the command cant be run directly in this way at my Windows System laptop. But I’m not sure if the command can be run directly in MacOS. Please try it, cuz unfortunately I don’t have a macbook...

3.Then run the file the Flow\_Examples.m

So basically, once you figure out the step 2, every time u can just do step 3 to run the whole program.

And the file Flow\_Examples.m. It contains all parameters that needed for the graph and flow generation. I already put some options in it. So basically we can change parameters, graph distributions, flow distributions, test choices, subgraph types in this file.

The other thing you can do is to add test which is in the file perform\_test.m. I added five different test. (one is just for quick program debug, I already wrote a description in the file). For adding more tests, u just need to make sure to use (flow\_data, subgraph\_edges). Or u can send me the test u’ve designed by using other programing languages, I can transform and add it into the file.

Please go to the readme.txt file in our github page for other files detailed descriptions.

Please let me know if there is something I made you confused or some problems you cant figure out !