

Part1. Download files from github and finish the code.

Part2. Compile under linux.(My platform is Ubuntu-16.04.3-amd64.)

1. Install vim: `sudo apt-get install vim`
2. put all code file under `/ee213` , then open a terminal under the path:
`ee213/starter_code/matlab_spice_parser`,
Input in the terminal: `make`

Failed:

```
yiboliu@ubuntu:~/ee213/starter_code/matlab_spice_parser$ make
flex -oparse.yy.c parse.lex
make: flex: Command not found
Makefile:18: recipe for target 'parse' failed
make: *** [parse] Error 127
yiboliu@ubuntu:~/ee213/starter_code/matlab_spice_parser$ sudo apt-get install fl
ex
E: Invalid operation insatll
yiboliu@ubuntu:~/ee213/starter_code/matlab_spice_parser$
```

Follow the error information, install flex, failed.(`sudo apt-get install flex`)

Under Reference 1:

<https://askubuntu.com/questions/859125/make-flex-command-not-found>

I edit the system source file and installed flex.

3. Under path: `ee213/starter_code/matlab_spice_parser`,
open terminal and input: `make`

Compile Failed:

```
yiboliu@ubuntu:~/ucr-ee213/starter_code/matlab_spice_parser$ make
flex -oparse.yy.c parse.lex
bison -d parse.y
make: bison: Command not found
Makefile:18: recipe for target 'parse' failed
make: *** [parse] Error 127
```

Based on the error information, need to install: bison

4. In the terminal , input: `sudo apt-get install bison`

```
yiboliu@ubuntu:~/ucf-ee213/starter_code/matlab_spice_parser$ sudo apt-get install bison
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  libbison-dev
Suggested packages:
  bison-doc
The following NEW packages will be installed:
  bison libbison-dev
0 upgraded, 2 newly installed, 0 to remove and 0 not upgraded.
Need to get 595 kB of archives.
After this operation, 1,816 kB of additional disk space will be used.
Do you want to continue? [Y/n] Y
Get:1 http://old-releases.ubuntu.com/ubuntu utopic/main amd64 libbison-dev amd64 2:3.0.2.dfsg-2 [338 kB]
Get:2 http://old-releases.ubuntu.com/ubuntu utopic/main amd64 bison amd64 2:3.0.2.dfsg-2 [257 kB]
Fetched 595 kB in 1s (399 kB/s)
Selecting previously unselected package libbison-dev:amd64.
(Reading database ... 176189 files and directories currently installed.)
Preparing to unpack .../libbison-dev_2%3a3.0.2.dfsg-2_amd64.deb ...
Unpacking libbison-dev:amd64 (2:3.0.2.dfsg-2) ...
Selecting previously unselected package bison.
Preparing to unpack .../bison_2%3a3.0.2.dfsg-2_amd64.deb ...
Unpacking bison (2:3.0.2.dfsg-2) ...
Processing triggers for man-db (2.7.5-1) ...
Setting up libbison-dev:amd64 (2:3.0.2.dfsg-2) ...
Setting up bison (2:3.0.2.dfsg-2) ...
update-alternatives: using /usr/bin/bison.yacc to provide /usr/bin/yacc (yacc) in auto mode
yiboliu@ubuntu:~/ucf-ee213/starter_code/matlab_spice_parser$
```

5. Under the path: ee213/starter_code/matlab_spice_parser, open terminal and input: `make`

Compile succeed!

```
yiboliu@ubuntu:~/ee213/starter_code/matlab_spice_parser$ make
flex -o parse.yy.c parse.lex
bison -d parse.y
gcc -g -c main.c
In file included from main.c:16:0:
parse.yy.c: In function 'yy_intt_buffer':
parse.yy.c:1495:46: warning: implicit declaration of function 'isatty' [-Wimplicit-function-declaration]
b->yy_is_interactive = file ? (isatty( fileno(file) ) > 0) : 0;
                                     ^
In file included from main.c:17:0:
parse.y: In function 'yyerror':
parse.y:146:12: warning: format not a string literal and no format arguments [-Wformat-security]
    fprintf(stderr, msg);
           ^
main.c: In function 'Cell_Parser':
main.c:31:12: warning: implicit declaration of function 'Init_Symbol_Tables' [-Wimplicit-function-declaration]
    Init_Symbol_Tables();
    ^
main.c:40:12: warning: implicit declaration of function 'Index_All_Nodes' [-Wimplicit-function-declaration]
    Index_All_Nodes();
    ^
main.c:41:12: warning: implicit declaration of function 'Print_Node_Table' [-Wimplicit-function-declaration]
    Print_Node_Table();
    ^
main.c:42:12: warning: implicit declaration of function 'Print_Device_Table' [-Wimplicit-function-declaration]
    Print_Device_Table();
    ^
main.c:44:12: warning: implicit declaration of function 'Init_MNA_System' [-Wimplicit-function-declaration]
    Init_MNA_System();
    ^
main.c:45:12: warning: implicit declaration of function 'Create_MNA_Matrix' [-Wimplicit-function-declaration]
    Create_MNA_Matrix();
    ^
main.c:46:12: warning: implicit declaration of function 'Print_MNA_System' [-Wimplicit-function-declaration]
    Print_MNA_System();
    ^
main.c: In function 'main':
main.c:71:8: warning: implicit declaration of function 'Get_Matrix_Size' [-Wimplicit-function-declaration]
    din = Get_Matrix_Size();
           ^
main.c:77:12: warning: implicit declaration of function 'Get_MNA_System' [-Wimplicit-function-declaration]
    Get_MNA_System(&A, &B);
           ^
gcc -g -c parse_func.c
gcc -g -c Symbol_Table.c
gcc -g -c MNA_Matrix.c
gcc -g -o runparse main.o parse_func.o Symbol_Table.o MNA_Matrix.o
yiboliu@ubuntu:~/ee213/starter_code/matlab_spice_parser$
```

6. Run the nestlist file:

In the terminal input: `./runparse netlist_t1.sp`

This is the final output.

```
yiboliu@ubuntu: ~/ee214/starter_code/matlab_spice_parser
yiboliu@ubuntu:~/ee214/starter_code/matlab_spice_parser$ ./runparse netlist_t1.sp

File name: netlist_t1.sp
[Resistor parsed ...]
  name=R1, node+=1, node-=0, R=5.000000e+00
[VCCS parsed ...]
  name=G2, N+=1, Ne-=0, Nc+=1, Nc-=2, G=2.000000e+00
[Resistor parsed ...]
  name=R3, node+=1, node-=2, R=6.000000e+00
[Resistor parsed ...]
  name=R4, node+=2, node-=0, R=8.000000e+00
[Current source parsed ...]
  name=Is, node+=0, node-=2, I=1.000000e+01
M[Finished parsing netlist!]
  #res=3, #cap=0, #ind=0, #vccs=1, #vsrc=0, #isrc=1

Total nodes number=3
Node2name=2
Node0name=0
Node1name=1

Total device number=5
Device=Is,value=10.000000,node_number=2
Nodelist Detail:      DeviceNode0: 0, DeviceNode1: 2,
Device=R4,value=8.000000,node_number=2
Nodelist Detail:      DeviceNode0: 2, DeviceNode1: 0,
Device=R3,value=6.000000,node_number=2
Nodelist Detail:      DeviceNode0: 1, DeviceNode1: 2,
Device=G2,value=2.000000,node_number=4
Nodelist Detail:      DeviceNode0: 1, DeviceNode1: 0, DeviceNode2: 1, DeviceNode3: 2,
Device=R1,value=5.000000,node_number=2
Nodelist Detail:      DeviceNode0: 1, DeviceNode1: 0,

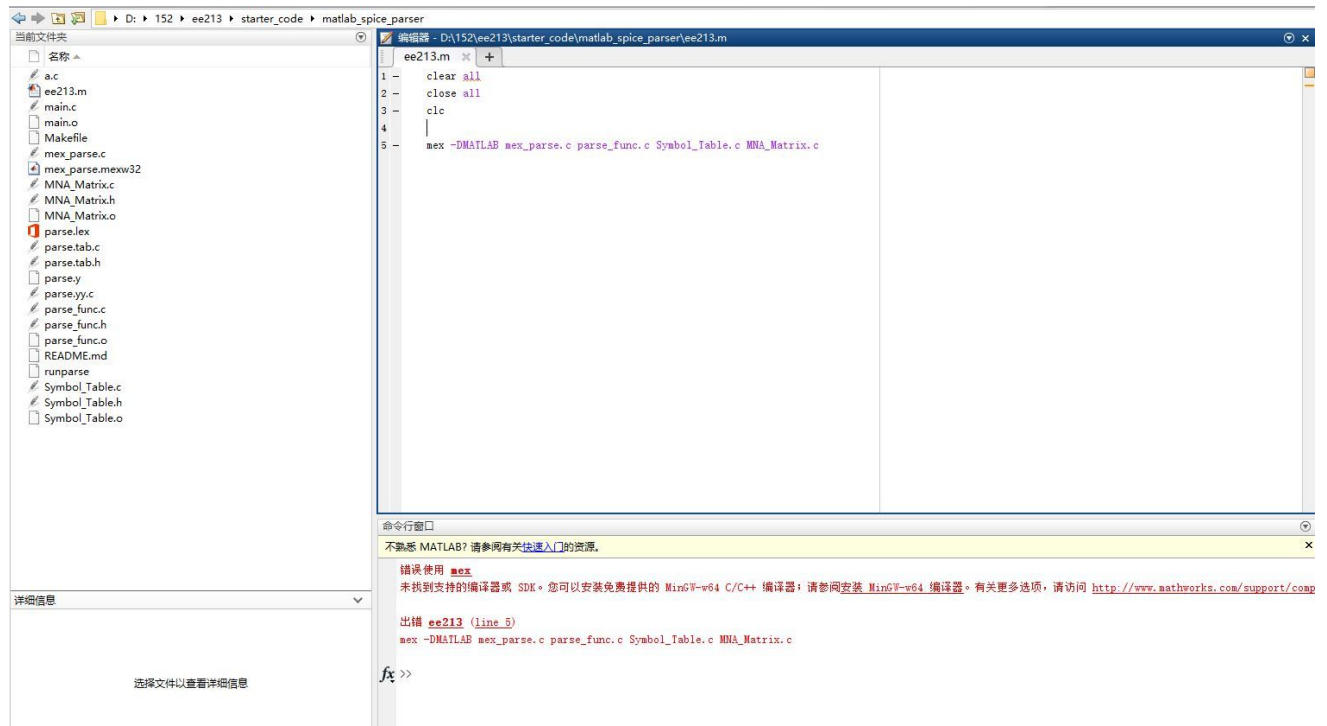
      0      1      2      RHS
[0 ]  0.325000+0.000000s  -2.200000+0.000000s  1.875000+0.000000s  -10.000000
[1 ]  -0.200000+0.000000s  2.366667+0.000000s  -2.166667+0.000000s   0.000000
[2 ]  -0.125000+0.000000s  -0.166667+0.000000s   0.291667+0.000000s  10.000000
dim = 2
A:
      0.325  -0.200  -0.125  -2.200  2.367  -0.167  1.875  -2.167  0.292
b:
      -10.000  0.000   10.000
yiboliu@ubuntu:~/ee214/starter_code/matlab_spice_parser$
```

Part3. Compile In Matlab (really necessary??)

1. In Matlab, input:

mex -DMATLAB mex_parse.c parse_func.c Symbol_Table.c MNA_Matrix.c

Failed:



2. Based on the error information, I install MinGW-w64 with following reference:

Reference 2:

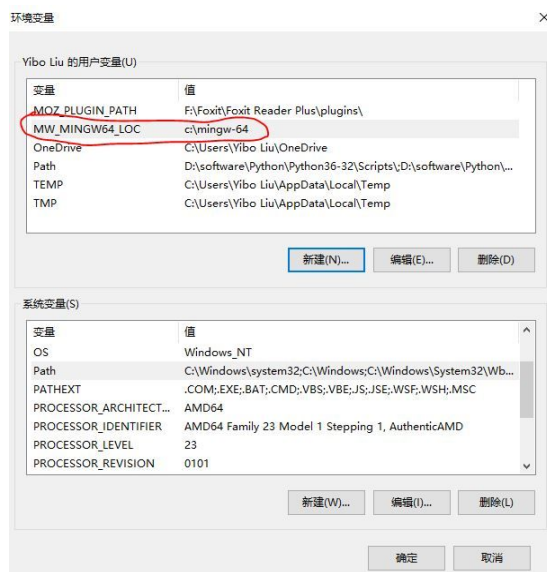
http://www.mathworks.com/help/matlab/matlab_external/compiling-c-mex-files-with-mingw.html?s_tid=gn_loc_drop

Reference 3:

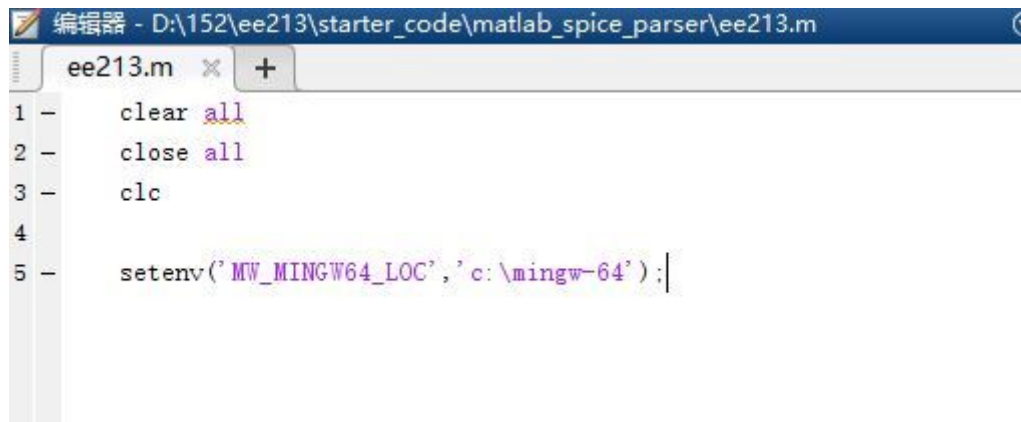
<http://blog.csdn.net/Desire121/article/details/60466845>

3. (Ref.3)Download and install mingw-64 under: c:\mingw-64

Add a new environment variable:



Then, in matlab, input: `setenv('MW_MINGW64_LOC','c:\mingw-64');`



```
编辑器 - D:\152\ee213\starter_code\matlab_spice_parser\ee213.m
ee213.m
1 - clear all
2 - close all
3 - clc
4
5 - setenv('MW_MINGW64_LOC','c:\mingw-64');
```