

How to run the Parser

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Previously students were only recommended to code and debug the Parser on the Viterbi server. But now I find out that if you can make sure you are using the **GCC** compiler to compile the **readckt.c** which is the source file of Parser, you can finish your project on your laptop even without a Virtual Machine.

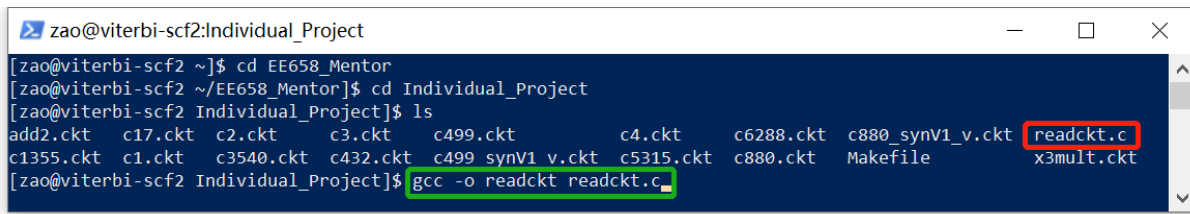
BUT you must confirm that the program can be compiled and run **on the Viterbi server**, where you need to do the presentation after you finish the final project. Here let me introduce how to compile and run the Parser on Viterbi Server.

On Viterbi Server.

1. Put the readckt.c and .ckt files into the same directory on the Server.

I recommend the beginners (me) to do so because it's convenient to refer to a .ckt file.

Otherwise, you should specify the path.



```
zao@viterbi-scf2:Individual_Project
[zao@viterbi-scf2 ~]$ cd EE658_Mentor
[zao@viterbi-scf2 ~/EE658_Mentor]$ cd Individual_Project
[zao@viterbi-scf2 Individual_Project]$ ls
add2.ckt  c17.ckt  c2.ckt  c3.ckt  c499.ckt  c4.ckt  c6288.ckt  c880_synV1_v.ckt  readckt.c
c1355.ckt c1.ckt  c3540.ckt c432.ckt c499_synV1_v.ckt c5315.ckt c880.ckt  Makefile  x3mult.ckt
[zao@viterbi-scf2 Individual_Project]$ gcc -o readckt readckt.c
```

Here you can see I have put the readckt.c and a bunch of .ckt files into the same folder.

2. Use GCC to compile the readckt.c

As said in the slides, the command is

gcc -o readckt readckt.c

gcc is the compiler we use.

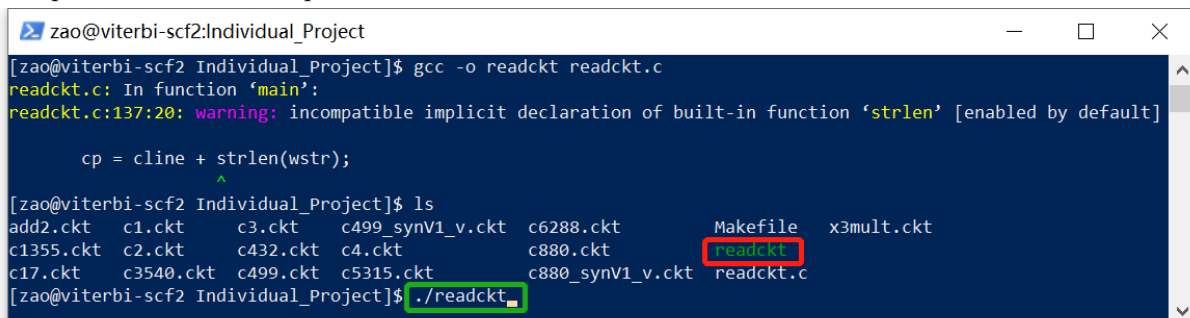
-o means we specify the name of the compiled file.

readckt is the name of the compiled file which is specified by you. You can change it to the name you like in later projects.

But in the individual project, it should be parser

readckt.c is the source file.

3. Compile it and run the compiled file.



```
zao@viterbi-scf2:Individual_Project
[zao@viterbi-scf2 Individual_Project]$ gcc -o readckt readckt.c
readckt.c: In function 'main':
readckt.c:137:20: warning: incompatible implicit declaration of built-in function 'strlen' [enabled by default]
    cp = cline + strlen(wstr);
                   ^
[zao@viterbi-scf2 Individual_Project]$ ls
add2.ckt  c1.ckt  c3.ckt  c499_synV1_v.ckt  c6288.ckt  Makefile  x3mult.ckt
c1355.ckt c2.ckt  c432.ckt c4.ckt  c880.ckt  readckt
c17.ckt  c3540.ckt c499.ckt c5315.ckt c880_synV1_v.ckt readckt.c
[zao@viterbi-scf2 Individual_Project]$ ./readckt
```

There may be some warnings when you compile the readckt.c. (Just ignore them 😊)

And use the command of **./readckt** to run the Parser. **Your command should be ./parser**

4. In the Parser

```
zao@viterbi-scf2:Individual_Project

Command>help
READ filename - read in circuit file and creat all data structures
PC - print circuit information
HELP - print this help information
QUIT - stop and exit

Command>read c17.ckt
==> OK

Command>pc
```

First you need to read a .ckt file. If you put the .ckt files and compiled source file in the same folder, you don't need to specify the path.

The use PC to print the circuit.

```
zao@viterbi-scf2:Individual_Project

Command>pc
Node   Type   In           Out
-----
 1    PI           10
 2    PI           16
 3    PI           8 9
 8  BRANCH  3           10
 9  BRANCH  3           11
 6    PI           11
 7    PI           19
10  NAND    1 8           22
11  NAND    9 6           14 15
14  BRANCH  11           16
15  BRANCH  11           19
16  NAND    2 14          20 21
20  BRANCH  16           22
21  BRANCH  16           23
19  NAND    15 7           23
22  NAND    10 20
23  NAND    21 19
Primary inputs: 1 2 3 6 7
Primary outputs: 22 23

Number of nodes = 17
Number of primary inputs = 5
Number of primary outputs = 2

Command>
```

The parser cannot be successfully compiled on Mac (at least on my M2 MacBook Air using GCC).

I highly recommend you use Visual Studio Code which supports breakpoint debugging and it will make your life much easier (Trust me).

Although it's an individual project, you can study together and share your knowledge as a team. I know some students may not be good at C language and they will have a hard time learning what's a structure, how to allocate memory spaces, etc.

Every student should finish their own individual project on their own. You can ask your classmates or teammates for help but you yourself should finish it.