Compilers – Fall 2022

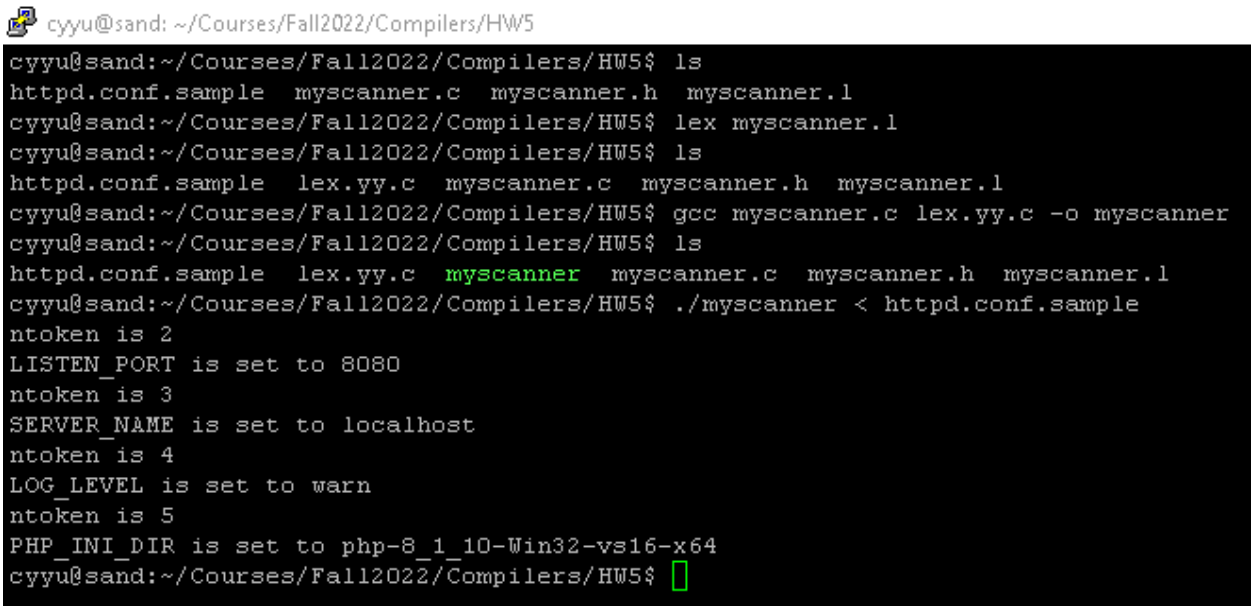
HW5: Practices on Lex **Total: 15 points**

Here is the file provided:

1) **http.conf.sample: a simulation for Apache web server's configuration file**

The purpose of this file is to test our C program in the linux environment.

Here is the execution screenshot.



You need to study the Lecture 3 --- Lexical Analysis.

"The Tutorial on Lex_Yacc.pdf"

Also, you need to run the code in myscanner_example.zip to try to make sure you fully understand everything, including the tricks in the coding of the C program.

Your job is to develop the following and the submission is the exactly 3 files.

A) **myscanner.c**
B) **myscanner.h**
C) **myscanner.l**

The 1st step, you will need to observe how your data looks like?

[Hints]:

If you can check my zip file, there is one file "myscanner.l".

In the middle of the content, the 2nd part, there are 2 parts actually.

It is the same in your homework, "myscanner.l", 2 parts.

```
return COLON;
return LISTEN_PORT;
return SERVER_NAME;
return LOG_LEVEL;
return PHP_INI_DIR;

return IDENTIFIER;
return INTEGER;
;
printf("unexpected character\n");
```

As for this file, the "myscanner.l", you need to do a good job in regualr expression.

At least, you need to match "php-8_1_10-Win32-vs16-x64", this string.

Now, the last step is to develop your .c file:

You will need to switch on many "name token" (ntoken), but before the switch(){…},

you will need to get the "value token" (vtoken)

If there is a match of the ntoken we got previously, then do the further matching onto the vtoken.

The vtoken, you can just make it to match the INTEGER or IDENTIFIER.

By default, you can just put a "Syntax error…".

Finally, do remember to use "yylex" to read the next ntoken again on the bottom of the while loop.

For, the running environment, I just use our "sand linux server". That's it!