CS4158

Tutorial week 7

1: Calculate the LL(1) predict set for each production rule in the grammar. Illustrate how this predict set helps in the LL(1) parsing of the language instance “repimaun”, by walking through the LL(1) building of the associated parse tree

X-> HTmLn

H-> css

H-> Grep

H-> 

T-> ftp

T-> i

L-> auG

L-> java

G-> x

G-> y

G-> 

Note every sentential form encountered.

2: What is the job of the lexer?

3: Within that, what is the symbol table and what are its jobs?

4: Write a regular expression for a token that must start with a capital letter, but can then have any combination of (at least 1) numbers, letters or {%^&\*}. It must end with between 1-to-3 commas.

5: Create a deterministic FSA for this token, and a transducer

6: Generate a transition table from this DFSA

7: Using the code below check if Ayut675^, and H6785$%,, are tokens matching this regular expression.

state = initial\_state;

cur\_char = getchar();

while (true) {

if (cur\_char == EOI) //End Of Input

break;

next\_state = T[state][cur\_char]

if (next\_state == ERROR)

state=next\_state;

break;

state = next\_state;

cur\_char = getchar();

}

if (is\_final\_state(state))

return (valid\_token)

else

return (not\_valid\_token)