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CS 360
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Assignment 2

Theory Part

1.

1. (i) Variables:

C - Constant	oct - digit
int - Const	nonzero - digit
oct - Const	dec - digit
dec - int	hex - digit
hex - int	u - Suffix
int - Suffix	l - Suffix
hex - fp	ul - Suffix
exponent	dec - fp

(ii) The variables listed above describing the number representation: octal, decimal, hex, etc.

C_Const -> int_const
-> (dec_int) int_suffix
-> nonzero_digit dec_digit * int_suffix
-> 1 dec_digit * int_suffix
-> 1o e
-> 1o ϵ

2.

LL(1) parses left : left to right and right most derivation
1's for one input symbol. ε production 1ε means empty string

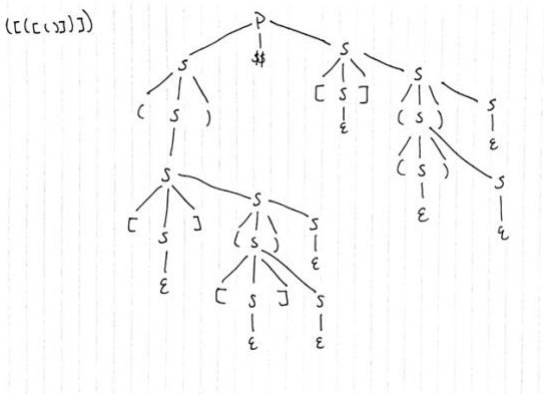
LL (1)
P -> S $$
S -> (S) S
S -> [S] S
S -> ε

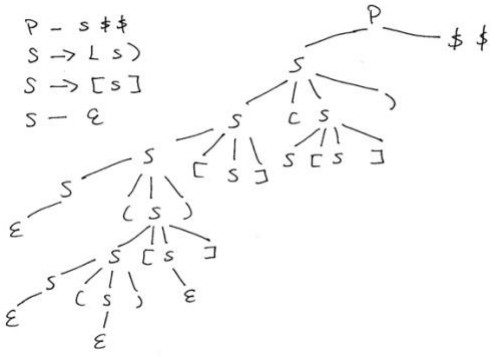
Simple LR Parses L means reads the input symbol from left to right and R means Right most derivation 1 means it refer only one input, it reads from the right side

P -> S $$
S -> S (S)
S -> S [S]
S -> ε

	First	Follow
P -> S $$	{(, [, $, ε}	{$}
S -> (S) S S -> S [S] S -> ε	{(, [, ε}	{}

2.





3. State 0:

   $id\_list \rightarrow \bullet\ id\_list\_tail\ \ id$

   $id\_list\_tail \rightarrow \bullet\ id\_list\_tail\ \ id$

   $id\_list\_tail \rightarrow \bullet;$

   State 1:

   $id\_list\_tail \rightarrow \bullet\ id\_list\_tail\ \ id$

   $id\_list\_tail \rightarrow \bullet\ id\_list\_tail\ \bullet\ id$

   $id\_list\_tail \rightarrow \bullet;$

   State 2:

   $id\_list\_tail \rightarrow ;\bullet$

   State 3:

   $id\_list\_tail \rightarrow id\_list\_tail\ \ id\bullet$

   State 4:

   $Id\_list\_tail \rightarrow id\_list\_tail\ \ \bullet id$

   State 5:

   $id\_list \rightarrow id\_list\_tail\ \ \bullet id$

   State 6:

   $id\_list \rightarrow id\_list\_tail\ \ id\bullet$