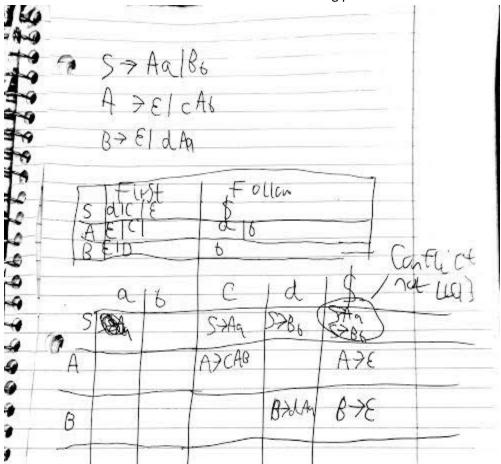Matthew O'Connor Homework 3 Cse 305

1.) The grammar is not LL(1) because there is a rules conflict with the First of S becoming $. Both the rules S->Aa and S->Bb can lead to this. The following picture illustrates this.

2.)

a. Assuming static scoping:

i. sub1
ii. sub1
iii. main

b.) Assuming dynamic scoping

i. sub1
ii. sub1

iii. sub1

3.)

d.)
a, y, z sub1
x, w   sub3
e.)
a, b, z sub2
x, w   sub3
y   sub1
f.)
a, y, z sub1
b   sub2
x, w   sub3

Q4.)

% Facts

edge(a,b).

edge(a,c).

edge(b,d).

edge(d,c).

% rules

path(S,N,1) :- edge(S,N).

path(S,N,M) :- U is M-1, edge(S,C), path(C,N,U).

path(S,N) :- edge(S,N).