**Algorithm for Computing First and Follow Sets**

nullable = {}

foreach nonterminal X:

first(X)={}

follow(X)={}

for each terminal Y:

first(Y)={Y}

repeat

foreach grammar rule X ::= Y(1) ... Y(k)

if k=0 or {Y(1),...,Y(k)} subset of nullable then

nullable = nullable union {X}

for i = 1 to k

for j = i+1 to k

if i=1 or {Y(1),...,Y(i-1)} subset of nullable then

first(X) = first(X) union first(Y(i))

if i=k or {Y(i+1),...Y(k)} subset of nullable then

follow(Y(i)) = follow(Y(i)) union follow(X)

if i+1=j or {Y(i+1),...,Y(j-1)} subset of nullable then

follow(Y(i)) = follow(Y(i)) union first(Y(j))

until none of nullable,first,follow changed in last iteration