Use the following grammar to answer question 1

Prog -> StmtSeq
StmtSeq -> Stmt StmtSeq
StmtSeq -> ε
Stmt -> Id = Expr ;
Expr -> Expr || Term
Expr -> Term
Term -> Term && Factor
Term -> Factor
Factor -> ! Factor
Factor -> (Expr)
Factor -> Id
Factor -> True
Factor -> False

1. Show the bottom up construction of the parse tree for the following input up to and including the fourth time a node with the value Stmt is added to the tree. Note your answer will not be a single tree. It will be a collection of tress that have not yet been joined into a single tree. For example if you look at slide 42 in the slides on building parse trees (parsing2) there are three trees. One tree with a root of Stmt, a second tree with a root of Stmt and a third tree with a root of StmtSeq. Do not show the whole parse tree.

x = True;
y = x && False;
w = x || y
z = x && w || y;