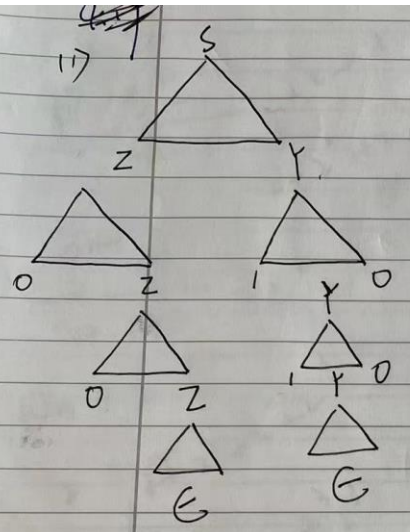
11)



$G \rightsquigarrow ZY$
$\rightsquigarrow 0ZY$
$\rightsquigarrow 00ZY$
$\rightsquigarrow 001Y0$
$\rightsquigarrow 0011Y00$
$\rightsquigarrow 001100$

12) Yes, because here are more than one way to deal with it. G is definetly ambiguous.

$G \rightsquigarrow XZ$
$\rightsquigarrow 0X1Z$
$\rightsquigarrow 00X11Z$
$\rightsquigarrow 001102$
$\rightsquigarrow 0011002$
$\rightsquigarrow 001100$.

13) (a) Yes (b) No (c) Yes (d) Yes

14) $L = \{0^m 1^m 0^t \mid m, t \geq 0\} \cup \{0^m 1^t 0^t \mid m, t \geq 0\}$.

2. $L = \{0^a 1^b 0^c \mid a+b=c \quad a,b,c \in N\}$.

$\rightsquigarrow S ::= ABA$

$\rightsquigarrow A ::= 0A \mid \epsilon$

$\rightsquigarrow B ::= 1B0 \mid \epsilon$.