Aleksas Murauskas 260718389

Q.2)
  Let G= (V, Σ, R, ⟨STMT⟩

    ⟨STMT⟩ → Assign | If-Then | If-then-else |
    ⟨If-Then⟩ → if condition then ⟨STMT⟩
    ⟨If-then-else⟩ → if condition then ⟨STMT⟩ else ⟨STMT⟩
    ⟨assign⟩ → a := 1

G. Show G is ambiguous
  The statement "if condition then if condition
then a:=1 else a:=1" can be parsed in
  different ways

TREE 1   TREE 2
⟨STMT⟩   ⟨STMT⟩
if condition then ⟨STMT⟩   ⟨ifthenelse⟩
      ⟨Ifthenelse⟩   if condition then ⟨STMT⟩ else ⟨STMT⟩
if condition then ⟨STMT⟩ else ⟨STMT⟩   ⟨If-Then⟩   ⟨assign⟩
      ⟨assign⟩   ⟨assign⟩   if condition then ⟨STMT⟩   a:=1
      a:=1   a:=1   ⟨assign⟩
Same Statement but different parse   a:=1
2. G is ambiguous because it is not clear
where the else is binded.
  New statement needed to avoid this issue
      ⟨STMT⟩, ⟨If-then⟩, ⟨assign⟩ remain
unchanged
  ⟨Inmatch⟩ → ⟨assign⟩ | ⟨if if⟩
  ⟨Init⟩ → if condition then ⟨inmatch⟩ else ⟨inmatch⟩
  ⟨Ifthenelse⟩ → if condition then ⟨inmatch⟩ else ⟨STMT⟩