

11/8 (Sat) 21 20 Chomsky's Normal Form - revisited & Dijkstra's Mini-language.

7.1 Normal Form of CFG's - Chomsky's Normal Form (CNF)

$A \rightarrow \alpha \in P$ $A \in N, \alpha \in (N \cup T)^*$ c.f.g.

$A \rightarrow BC \in P$ or $A \rightarrow a \in P$ where $A, B, C, \in N, a \in T$ except $S \rightarrow \epsilon \in P$

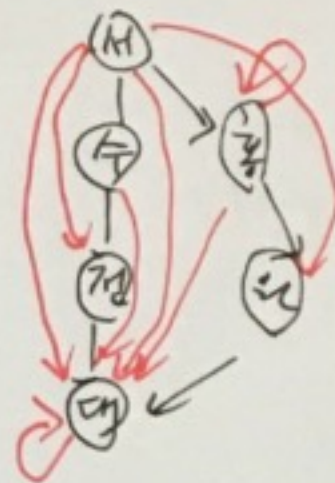
Thm 7.4 generating \equiv terminating

Thm 7.5 reachable \equiv accessible from S.

* Let $G = (V, E)$ be a graph $E \subseteq V \times V$.

$G^* = (V, E^*)$ di $e \leq n^2$

reachable vertices - $O(n^2)$
shortest path $= O(e)$



- 323
- 15 有 陽子
- 30 立 - 경제성 지향
- 40 분홍 - 유희
- 50 知天命 지천명. 바르게 살자 * 충하게 살자
- 60 耳順 이순
- 70 古希, 古稀, 古稀, 古稀

Dijkstra's Mini-language.

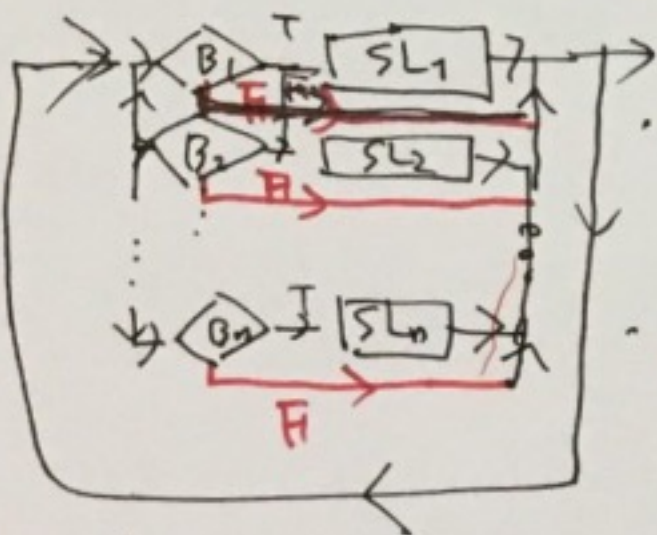
BNF (Bakus-Nauer Form)

- c.f.g. $\{ \} = ()^*$

$g-l ::= s \{ ; s \} = s (; s)^*$... list of statements separated by ;

$g-l \rightarrow s | \dots$

$s_1 ; s_2 ; s_3 ; \dots ; s_n$



• true 일 guard가 여는 것은 (214이전) \rightarrow 아무나 (Nondeterminacy)

• true 일 " 가 열려? \rightarrow if fi abort \equiv if fi do and skip \equiv do and \rightarrow exit the do od loop.

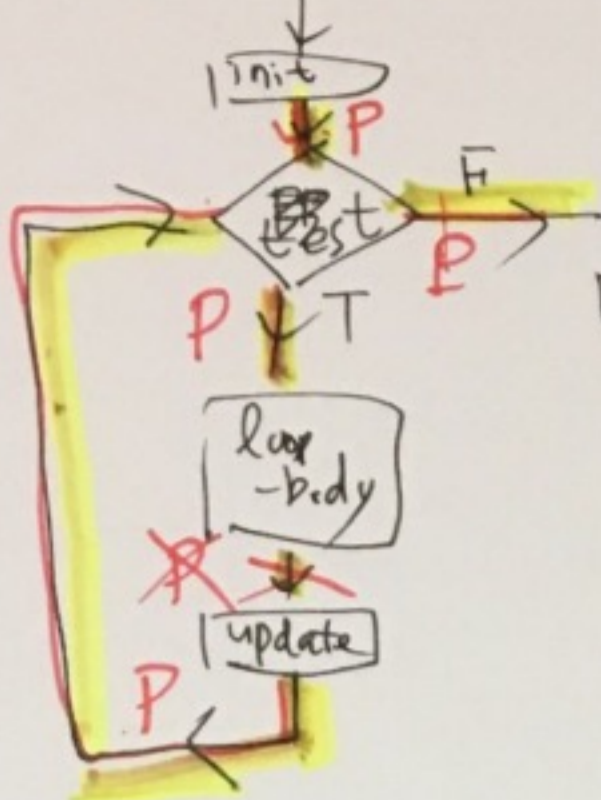
Concurrent assignment.

$x, y := y, x$

if $x \geq y \rightarrow m := x$
if $x \leq y \rightarrow m := y$
fi

if $x \geq y$ then $m := x$
else $m := y$
fi

vs if $x > y$ then $m := x$
else $m := y$
fi



for (init; test; update) loop-body; in C

Dilemma in the a loop

1. loop은 같아야 한다 ... Loop invariant condition **P**
2. loop이 달라야 한다

after the loop :

P ∧ ¬BB
 : we ab - to be initialize strong .. after the loop
P ∧ BB