1) 　　11

제 24강 NP comp. & SAT.

procedural P.L 의 제어 구조

$S1; S2; \ldots; S_n$ — concat. (·)

if $B_1 \rightarrow SL_1$
□ $B_2 \rightarrow SL_2$
⋮
□ $B_n \rightarrow SL_n$
fi
→ union (+) (|)

do $B_1 \rightarrow SL_1$
□ $B_2 \rightarrow SL_2$
□ $B_n \rightarrow SL_n$
od
→ closure (*)

증명
명제. (가정 → 결론)
① 반례 ○
반례를 포함하는 명제
② 반례 X
증명

Turing Church's Thesis

Thm 4.2 μ-RFs is Turing Computable (program)
Church's Thesis

μRF = TM
Church Turing

Thm 4.3 Turing machine (program) is μ-RFs.

Configuration $(\alpha, p, \beta) \rightarrow (w, p, n)$

μ-RFs

Chap10. Intractable Problem

N의 자연수

2^N : uncountable

$O(2^n)$ ... finite 1c

intractable (Cook의 생각)

$O(n^{1000})$ ... tractable

P vs NP

NP is <u>exponential</u> $k^{\log n^2}$

↓

not optimal

Example) Parsing of context-free grammar.

NP

$O(n^3)$ – CYK algorithm

$O(n)$ – yacc (LALR parsing) – 대부분 CFG.

$P \subseteq NP$, $P \stackrel{?}{=} NP$

NP complete (NP 완전)

SAT

Reduce P to SAT.

~~SAT is NP~~ P.

SAT is NP

Def. NP-complete

1. P is NP
2. $\forall p' \in NP$

$P \geq_R SAT$

$p' \leq_P NP$