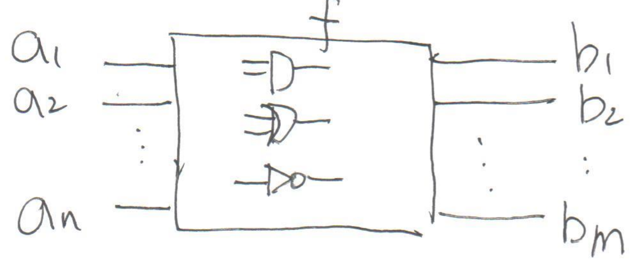
4月 11日(月) Review & 6 Counting.

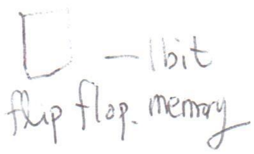
Review ~~Congruence of modulus~~ m.

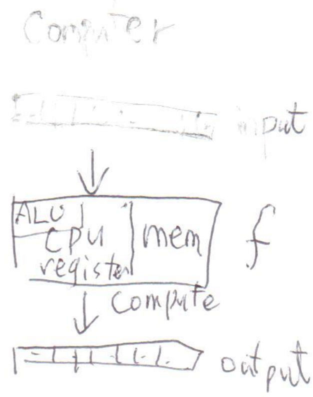
~~Boo~~ Boolean Circuit



Let $\mathbb{B} = \{0, 1\}$

or $\{T, F\}$





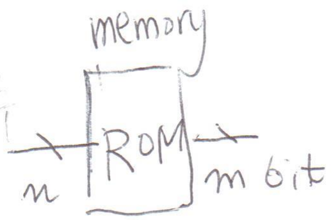
$f(i) = 0$

$f : \mathbb{B}^n \rightarrow \mathbb{B}^m$ $(n, m \geq 1)$

0? 나중에.

$\mathbb{B}^n = \underbrace{\mathbb{B} \times \mathbb{B} \times \cdots \times \mathbb{B}}_{n개}$

input : 2^n 경우의 수



$2^n \times m$ bit/s

Combinational circuit $\equiv$ $2^n \times m$ bit memory
(n-input, m-bit)

Tower of Hanoi — 아주 재미있고 중요하다

8장 recurrence relation의 풀이에서, 자세히 살펴 보자
(점화식)

$h_1 = 1$

$h_n = h_{n-1} + 1 + h_{n-1} = 2h_{n-1} + 1$

서양 수학(논리학)의 슬픈 비밀

시작, $\sqrt{2}$ 피타고라스 — 음악가. 현(弦, string) $\sqrt{2}$, 황금비율 $\frac{1+\sqrt{5}}{2} = 3.23\times\times\times\times$

$\doteqdot 1 : 1.618\times\times\times\times$

절대오차, 상대오차 의 범위

+, − ×, /

3.15 상대오차 $3.145 \leq (3.15) < 3.155$ 절대오차

Δ delta ε(Epsilon), ?

2) String of length n over Σ

$\cdot : \{1, 2, \ldots, n\} \longrightarrow \Sigma = \{a, b, \ldots, z\}$

(f)

$\cdot(1) = 'b' \in \Sigma$

$\cdot(2) = 'o' \in \Sigma$

$\cdot(3) = 'y' \in \Sigma$

$\cdot(1,2,3) = "boy"$

$\cdot_1(3) = "boy"$ $\quad \cdot_2(5) = school$ $\quad |\cdot(3)| = 26^3$

$|\cdot(5)| = 26^5$

$\cdot_2(5) \circ \cdot_1(3) = "schoolboy"$

$f : A \to B.$

$|f| = |B|^{|A|}$

$P(A)$

$|P(A)| = 2^{|A|} \to \{0,1\}^{|A|} = \{0,1\}^n$

$\updownarrow$

$|A|$ bit binary string