FLAT. - 4th Aug-2020 - DC

- Formal Language and Machines were developed by Noam Chomsky.
- And also FLAT has been introduced by: Alan Turing, Alex Turb,
- Who invented FA? → W. McCollock and Walter Pitts - 1943
- Emil Liampost has invented ~~well formed formula (wff) and mathematical logic~~ computational theory or recursion theory.
- Significant Scientists: -i) Alonso Church : Church's Hypothesis
  ii) Stephen Kleene Kleene Closure or Kleene Stars
- Kart Godel: wff and mathematical logic.
  ↳ well-formed formula.
- Alan Turing: Turing Machine (basic of Church-Turing hypothesis)

In Medy Machine → Transition
Moore Machine → State

Language:

Type 0 → REL (D AND)
→ RECL (")

Type 1

- Methods to study Language: Grammar (G): previously discussed.

Language (L): generated from G.

In TOC, L = Formal Language →

$S = \{a\}\{b\}$

$\Sigma = \{a, b\}$

$\omega = \{aa\}\{bb\}$

$L = \{aa, bb\}$

Machine: logical Machine → Denoted by M

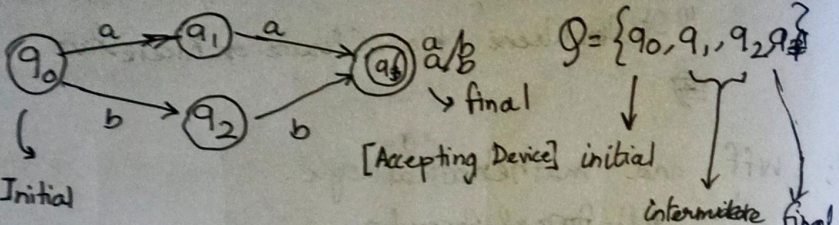
↳ as an accepting device : consumes string

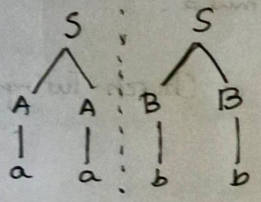
G = generating device → generates string.

↳ It is a collection of states.

Incoming arrow: initial state

double circled: final state





[generating device]

☑ Parse Tree

S → AA	[1 rule]	S → BB	[2nd Rule]
→ aA	[3rd Rule]	→ bB	[4th Rule]
→ aa		→ bb	

- Basic Operation on String:

Length of a String: without null characters

↳ elements present in the string.

↓

|ω| (cardinality)

⇒ Concatination ⇒ $\omega_1 = \{RAMA\}$ $\omega_1.\omega_2$

$\omega_2 = \{KRISNA\}$ $= \{RAMAKRISNA\}$

Reverse of a String:

$\omega^R = \{ABC\}$

$\omega^R = \{CBA\}$

prefix of a String / suffix of a string.

$\omega = \{abaa\}$

$P(\omega) = \{\varepsilon, a, ab, aba \ldots\}$

$S(\omega) = \{\varepsilon, a, aa, baab \ldots\}$