PRIMITIV RECURSIVEFCT. DE BAZĂ ORIGINALE

$f_0(x) = 0$

$s(x) = x + 1$

$p_n^n(x_1, \dots, x_n) = x_i$

$f = (g_1, \dots, g_k)$

$$\begin{array}{c} = \boxed{x_1} \rightarrow \\ = \boxed{x_2} \rightarrow \\ = \boxed{x_k} \rightarrow \end{array} f$$

FUNCTII PRIMITIV RECURSIVECOMBINARE

$f : \mathbb{N}^k \rightarrow \mathbb{N}$

$g_1, \dots, g_k : \mathbb{N}^n \rightarrow \mathbb{N}$

$f(x_1, \dots, x_n) = g_i$

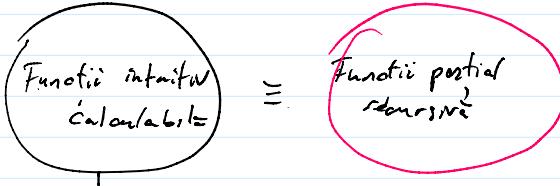
$g(x_1, \dots, x_k) = \mu y$

$\{ f(x_1, \dots, x_n, y) = 0 \}$

RECURSIE PRIMITIVĂ g, h f

$f(x_1, \dots, x_n, 0) = g(x_1, \dots, x_n)$

$f(x_1, \dots, x_n, y+1) = h(x_1, \dots, x_n, y), f(x_1, \dots, x_n, y)$

TEZA LUI CHURCHFUNCTII CALCULABILE

TAK LISP

FUNCTII CALCULABILE

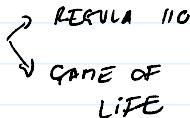
TAK PYTHON

IREANA STREINU

LISP, LISP-ADJUL

DE PROGRAMARE A.I.

AUTOMATE CELULARE

ACCIDENTAL TURING COMPLETE

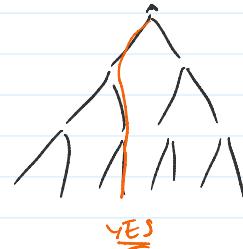
TEMPLATES IN C++ { ANDREI ALEXANDRESCU }
+ CLASROOM

GENERICs IN JAVA

HTML 3 + CSS

PowerPoint (?)

QUANTUM COMPUTERS



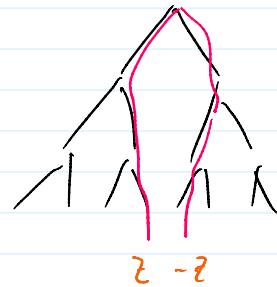
CLASSIC $\Pr \{ \text{YES} \} = \sum \text{amplitudine}$

$$1/2^n$$

QUANTIC

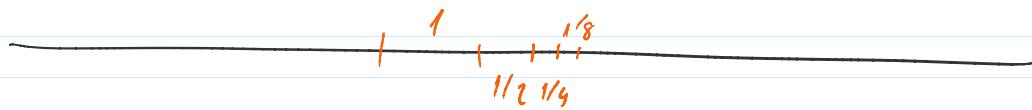
amplitudine $\rightarrow \mathbb{C}$

$$\Pr = \left\| \sum \text{amplit} \right\|^2$$



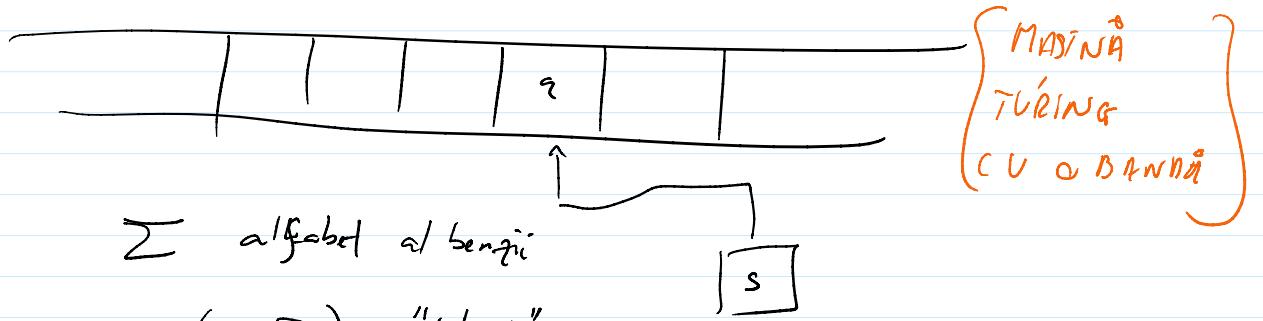
UN MODEL Mai Puternic

HYPERCOMPUTATION



MASINI TURINE

JFLAP



\sqcup (start \square) "begin"

s start

$$f(q, s) = (q', s', \xrightarrow{\quad}, -)$$

so start initial

$f \in S$ start female.

$f: \Sigma \times S$

function determinist

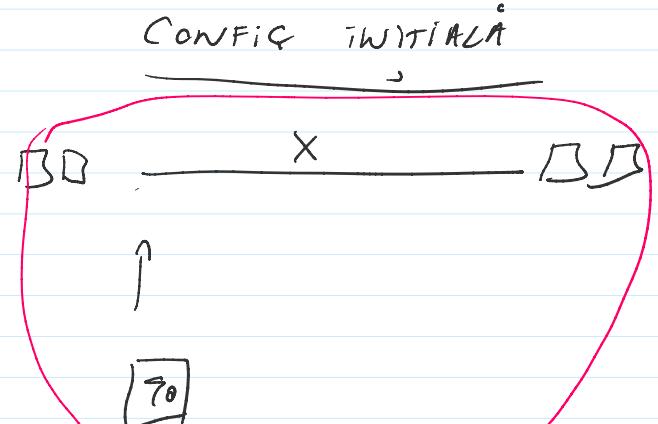
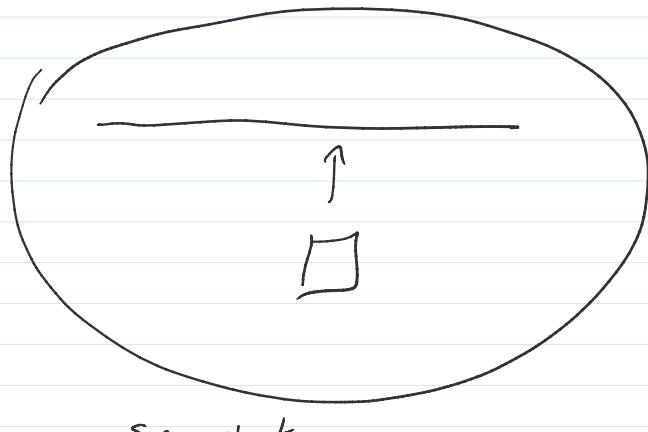
1936/37 → EINSCHÄNDUNGSPROBLEM



JACK COPELAND

THE ANNOTATED
TURING

$$L(M) = \{ x \in \Sigma^* \mid C_0(x) \xrightarrow{} \dots \xrightarrow{} C_n(x) \text{ stop final} \}$$



snapshot
(configuration)

70

$C_0(x)$

$C_0(x) \rightarrow C_1 \rightarrow C_2$

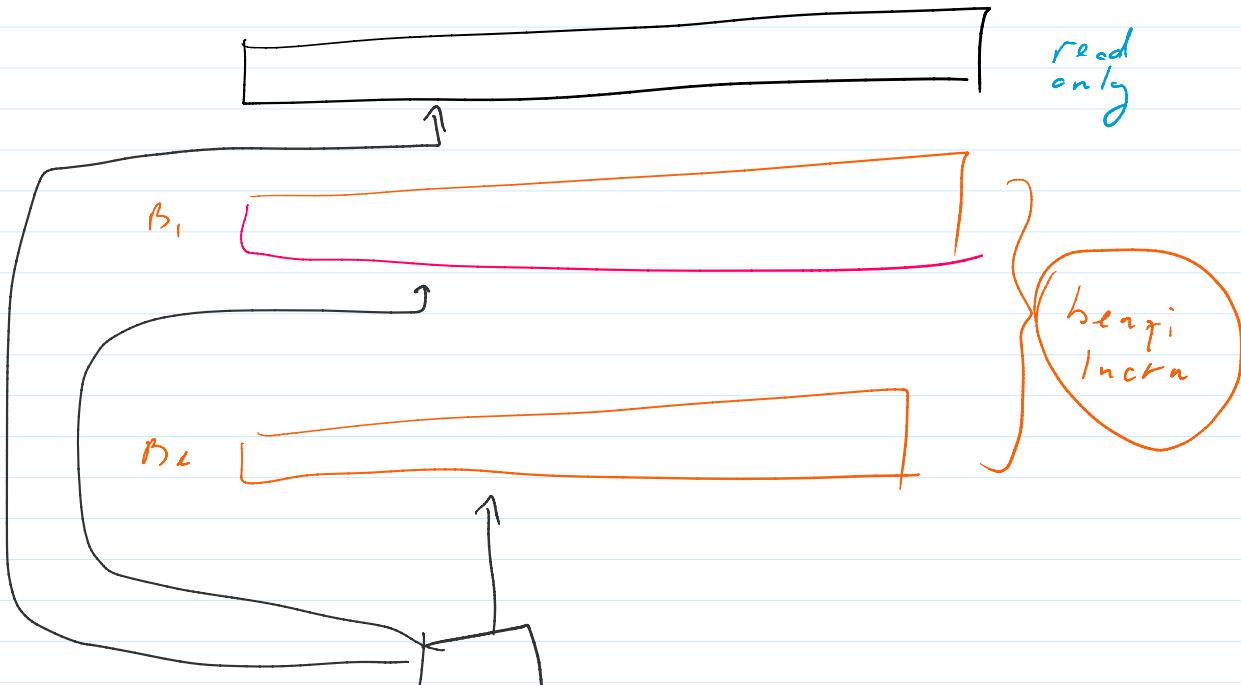
$\rightarrow C_{ik} \rightarrow \underline{\text{stop}}$

secF

Obs Dacă M.T are 1-bandă \Rightarrow TREBUIE să își PAUZE
voie să mobilită
în PVT

VARIANTE

Masino Turing multibanda



$\sim - k+1$ $\sim \leftarrow k, \sim \rightarrow 1^{k+1}$

$$f: S \times \Sigma^{k+1} \rightarrow S \times \overbrace{\Sigma^k \times \{ \xrightarrow{\quad} \}}^{k+1}$$

Masina Turing multifanda cu output

Un din bantii laturi \rightarrow banda de iesire

$$f(x) = y \quad c_0(x) \quad c_k(x)$$

y

Def $A \subseteq \Sigma^*$ se numeste recursiv denumerabilă
'computably' denumerable'

dacă $\exists m, T \in M$

$$M(x) = \begin{cases} 1 & x \in A \\ 0 & x \notin A \end{cases}$$

A se numește recursiv

$$M(x) = \begin{cases} 1 & x \in A \\ 0 & x \notin A \end{cases}$$

$$f: M \xrightarrow{\sim} N \quad \equiv \quad R_f = \{(x, y) \mid f(x) = y\}$$

