

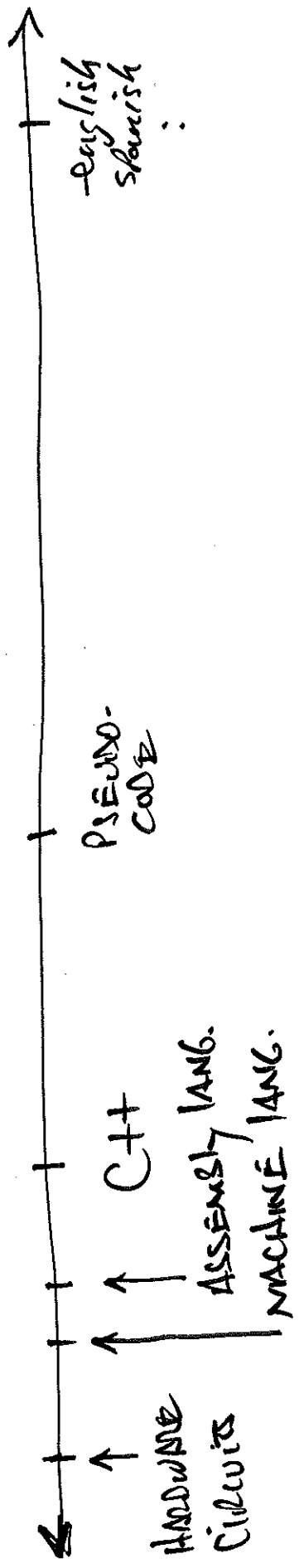
CNAPS 10 11-24-08

CHAP. 11: MODELS OF COMPUTATION

LANGUAGES:

- o PSEUDO-CODE
- o C++
- o Circuits

ASSEMBLY
CONTINUUM



NEW LANGUAGE! TURING MACHINES

RECALL DEFN. OF ALGORITHM:

A COLLECTION OF OPERATIONS WHICH ARE

- WELL ORDERED (WHAT NEXT)
- UNAMBIGUOUS (PRIMITIVE OPS ONLY)

→ EFFECTIVELY COMPUTABLE (?)

• PRODUCE A RESULT

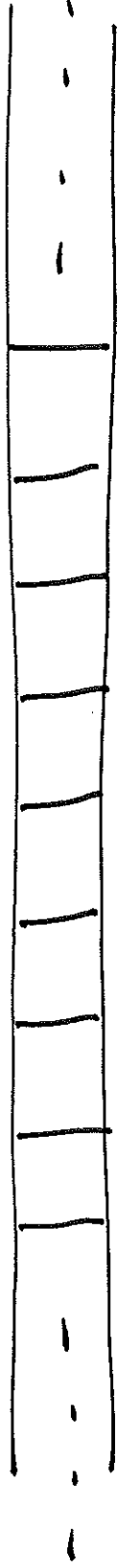
• HALT IN FINITE TIME (ON 'CONCRET' INPUT)

MEANT: EACH OP. IS A CALCULATION THAT

CAN SOMEHOW BE PERFORMED.

What is a Turing Machine?

- Includes a (conceptual) tape for input/output/memory



Divided into cells.

Each cell contains a symbol.

Symbols come from a finite set called the alphabet

{ b, 0, 1, ... }

↑ blank symbol