① Russell & Whitehead P.M.

↳ Maths ≠ Symbols

$x : x_n \in \mathbb{N}, \forall n \in \mathbb{N}$

$\in \int \partial$ ff

Gödel

↳ Code for every Mat result write as a code.]

integers

↓

101

↓ Primes infinitely many of them

↓

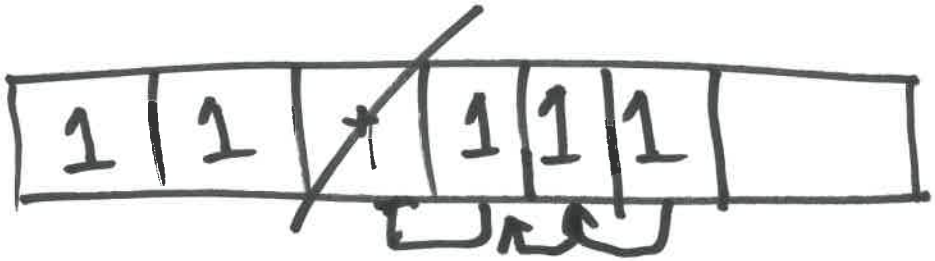
write code with fixed basis / prime

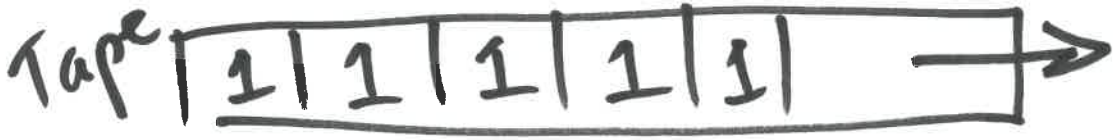
for all codes

Turing Human Computer → EMO

(2) Unary input and output

2 + 3 = 5





Turing Machine

pen ←
Paper ← } Memory ⇒ Tape

eyes ← } head r/w

Instructions ⇒ δ (Program)

Replace Human → electro-mechanical device

have eyes

awareness → Know where it's pointing or which cell it's at

i row n_1, n_2 size
j columns

R[i,j] D[n_1 i + j]

(3) ← any symbol possible

1 1 + 1 1 1 _

instruction

if we see 1 move Right

if see + replace with 1

move right

⋮

Code

1 R *
+ R 1
_ L *

← do nothing / leave as is

You could put the input & program onto the same Tape

Essential Turing

Stored computer program

Halting Problem