in C or C++ Topics

Play ground & Examples:

Resources Link : ① https://youtu.be/ViPNHMSUcg?si=wqa_Ao_qFzuoV8TB

[Eyesomorphic]

Case 1 : Boolean

set TRUE = λx.λy.x

FALSE = λx.λy.y

NOT = λb.b␣FALSE␣TRUE

① "λx.λy.x" → "λx" "λy" "x"

"λx.λy.x"β"K" find all x in the original string THEN Replace all word "x" with "K"

λ"x"."λy.x" → L1 ⟹ L2 L1 L1="x"

now set L1="K"

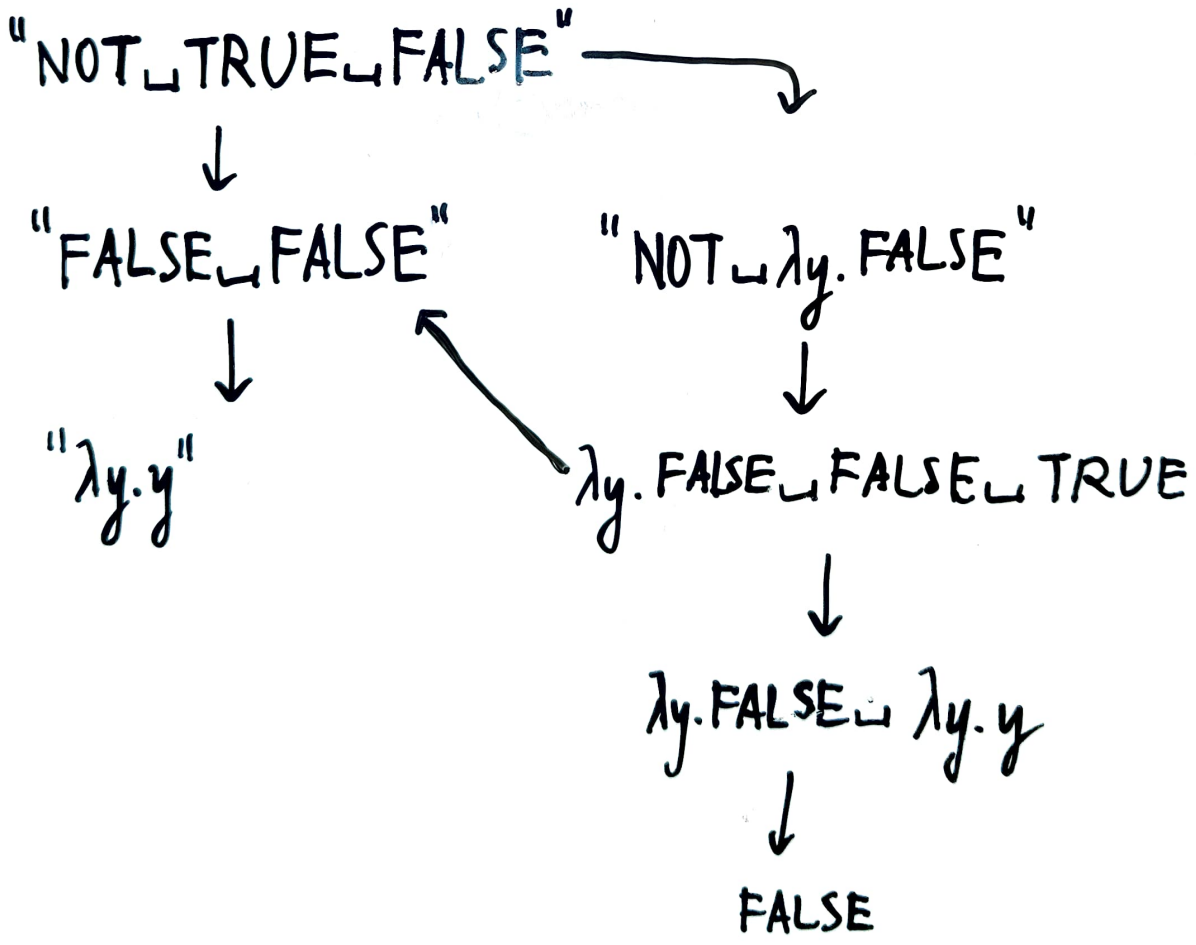
and return "λy.K" As new output

Sidetrial Halting Problem

set "A" = λx.λy.A␣x␣y

A␣2␣3 ⟶ A␣2␣3 ⟶ A␣2␣3 ⟶ ....

Back continue Case 1



Case 2: Num

$3 = \lambda f.\ \lambda x.\ f(f(f\ x))$

$2 = \lambda f.\ \lambda x.\ f(f\ x)$

$5 = \lambda f.\ \lambda x.\ f(f(f(f(f\ x))))$

$+ = \lambda x.\ \lambda y.\ x$

$3\ f\ (2\ f\ x)$

=

$3\ f = \lambda x.\ f(f(f\ x))$

$2\ (3\ f) = \lambda x.\ f(f(f(f(f(f\ x)))))$

$2\ 3$

↓

$* / \times : \lambda x.\ \lambda y.\ x\ y$

$3\ 2 = \lambda y.\ 2(2(2\ y))$

$= \lambda y.\ 2(2(\lambda x.\ y(y\ x))$

$\lambda x.\ (\lambda x.\ y(y\ x))\ (\lambda x.\ y(y\ x)\ x))$

$\lambda x.\ y(y(y(y\ x)))$

So As Above we found multiplication.

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$3 = \lambda f.\ \lambda x.\ f(f(f\ x))$

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$3\ f = \lambda x.\ f(f(f\ x))$

$2\ (3\ f) = \lambda x.\ f(f(f\ f(f(f\ x))))$

$2\ 3$

↓

$*/X : \lambda x.\ \lambda y.\ X\ Y$

$3\ 2 = \lambda y.\ 2(2\ (2\ y))$

$= \lambda y.\ 2(2(\lambda x.\ y(y\ x))$

$\lambda x.\ (\lambda x.\ y(y\ x))\ (\lambda x.\ y(y\ x)\ x))$

$\lambda x.\ y(y(y(y\ x)))$

So As Above we found multiplication.