20240614 7-Calculus with Typing PO in Cor C++ Topics Play ground & Examples: Resources Link: Ohttps://youtube/ViPNHM SU cog? si = wqa_Ao_qFzvoV8TB [Eye so morphic] Case 1: Boolean set TRUE = $\lambda \times \lambda y \cdot x$ FALSE = \(\lambda \tau \lambda \gamma NOT = λb . ω_{FALSE} TRUE $^{\circ}$ " $\lambda \times . \lambda y . \times " \longrightarrow "\lambda x " " \lambda y " " x "$ " $\lambda x. \lambda y. x$ " β " K" find all x in the original string THEN Replace all word "x" with "K" λ"x"."λy.x" -> L. => Lz L, L; =\" now set $L_1 = K''$

and return "Jy. K" As new output

Sidetrial Hulting Problem

set "A" = $\lambda x. \lambda y. A.x.y$ $A.. 2...3 \rightarrow A... 2...3 \rightarrow A... 2...3 \rightarrow$

Back continue Case 1

"NOT_TRUE_FALSE"

"FALSE_FALSE"

"NOT_Jy. FALSE"

"ly.y" ly.FALSELITRUE

λy. FALSE in λy. y

FALSE

Case 2: Num

 $3 = \lambda f. \lambda x. f(f(f_u x))$ 2= >f. >x. f(fux))

5= Xf. 7x. f(f(f(f(f_x))))

 $+ = \lambda x. \lambda y. x$ 34fu (24fux)

 $3.1f = \lambda x.f(f(f_ux))$

 $2u(3uf) = \lambda x. f(f(f_{u}(f(f_{u}x))))$

*/X: 2x.2y. Xwy

342 = 7y. 2(2(24y))

= /y. 2(2(/x. y(y4x)) Ax. (Ax.y (yux) (Ax.y (yux)ux)) 7x.y(g(g(g-x)))

So As Above we found multiplication.

Case 2: Num $3 = \lambda f. \lambda x. f(f(f_ux))$ 2= >f. >x. f(fux)) 5= Xf. 7x. f(f(f(f(f_x)))) $+=\lambda x.\lambda y.x$ 3ufu (2ufux) */x: 2x.2y. Xuy

 $3 = \lambda x.f(f(f_{ux}))$ $2u(3uf) = \lambda x. f(f(f_u f(f(f_u k))))$ 342 = 7y. 2(2(24y)) = 7y. 2(2(1x. y(y4x)) Ax. (Ax.y (yux) (Ax.y (yux)ux)) 7x.y(g(g(g-x1))

So As Above me found multiplication.