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Author: github.com/pooh64/Derivate_Engine
Aim: Find derivate of:

$$cos\left(\frac{(e)^{tan(x)}}{x}\right)$$

Derivate of:

$$x$$

thus it is obvious that:

$$1$$

Derivate of:

$$x$$

in a few hours of hard work:

$$1$$

Derivate of:

$$tan\left(x\right)$$

after five cups of coffee:

$$\frac{1}{\left(cos\left(x\right)\right)^{2}}$$

Derivate of:

$$(e)^{tan(x)}$$

after five cups of coffee:

$$(e)^{tan(x)} \cdot \frac{1}{\left(cos\left(x\right)\right)^{2}}$$

Derivate of:

$$\frac{(e)^{tan(x)}}{x}$$

making a few substitutions, we get:

$$\frac{(e)^{tan(x)} \cdot \frac{1}{(cos(x))^{2}} \cdot x - (e)^{tan(x)}}{(x)^{2}}$$

$$1$$

Derivate of:

$$cos\left(\frac{(e)^{tan(x)}}{x}\right)$$

in a few hours of hard work:

$$(-1)\cdot sin\left(\frac{(e)^{tan(x)}}{x}\right)\cdot\frac{(e)^{tan(x)}\cdot\frac{1}{(cos(x))^2}\cdot x-(e)^{tan(x)}}{(x)^2}$$

Simplify: finally:

$$(-1)\cdot sin\left(\frac{(e)^{tan(x)}}{x}\right)\cdot\frac{(e)^{tan(x)}\cdot\frac{1}{(cos(x))^2}\cdot x-(e)^{tan(x)}}{(x)^2}$$

List of used literature:
The C Programming Language K&R
MIPT 2017