PCRI

by Breck Yunits

May 31, 2024 – Yesterday, on a plane, I found the equation I sought for a decade.

$$P = C^{R^I}$$

PCRI describes a symbolic notation.

PCRI says the number of possible programs **P** is equal to the number of columns **C** (aka characters), raised by the number of rows **R** (aka lines), raised by the number of indentation levels **I**.

If you view the source code of this post, you will see **C, R, and I** in action.

PCRI is the equation for Tree Notation. Other notations may have a better simplicity to power ratio, but Tree Notation is the best I've seen so far.

PCRI is the reason why Tree Notation is so powerful. A tiny syntax supports a vast universe of concise programs.

PCRI explains the strength of flatter programs despite their simplicity: a little nesting goes a long way. If you set C and R to 8, changing I from 1 to 2 increases the amount of possible programs from 16 million to 281 trillion.

59 days ago I announced the decade long Tree Notation research endeavor over with a negative result.

It looks like I was wrong again. We have a positive result.

The experimental evidence kept hinting at some important natural law, and now we have a name for it: PCRI.

⁂

Notes

- As always, all mistakes are on me, and credit goes to the people who have supported this effort with me.
- I think this equation is pretty interesting, so I really hope a lot of people on the Internet tell me how stupid it is and that it was discovered 100 years ago.
- Now, back to my vacation.

Related Posts

- Final Tree Notation Report (2024)
- 2019 Tree Notation Annual Report (2020)
- Show HN: Programming is Now Two-Dimensional (2017)
- Introducing Note (2012)