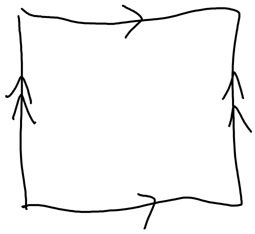
Random

June-03-10
3:24 AM

$$F(z) = g(z)\,g(z^{-1})$$

$$F'(z) = g'(z)\,g(z^{-1}) - g(z)\,g'(z^{-1})/z^2$$

$$(\log F(z))' = \frac{F'}{F} = \frac{g'}{g} - \frac{g'(z^{-1})}{g(z^{-1})\,z^2}$$



There is a second, Galois Theory, proof of the existence of horizontal associators in Drinfel'd's $Gal(\bar{\mathbb{Q}}/\mathbb{Q})$ paper!

In particular, I don't understand the following quote the $Gal(\bar{\mathbb{Q}}/\mathbb{Q})$ paper:

If $M_1(k) \neq \varnothing$, then the sequence

$$0 \to \mathfrak{gt}_1(k) \to \mathfrak{gt}(k) \xrightarrow{\nu_*} k \to 0, \qquad \nu_*(s, \psi) = s, \tag{5.8}$$

is exact, and to every $\varphi \in M_1(k)$ corresponds a splitting, defined by the Lie algebra of the stabilizer of φ in $GT(k)$.

PROPOSITION 5.2. *The mapping $M_1(k) \to \{$splittings of the sequence (5.8)$\}$ is bijective. In particular, exactness of (5.8) implies that $M_1(k) \neq \varnothing$.*

The double shuffle algebra that Furusho talks about, is it the GRT group of some algebraic structure?

Question: Is there a nice diagrammatic space to describe $R \otimes \mathfrak{g}$, for an arbitrary representation R of $\mathfrak{g}$?

.... It doesn't seem so.

__Question__ For a semi-simple $\mathfrak{g}$, what are the finite dimensional representations of $I\mathfrak{g}$?