

The Mathematics of Execution.

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Abstract

This paper covers the algebraic properties and concepts of ‘The Execution Semantics’ paper by El Mahrouss, A (2026). It is intended as an additional resource over the aforementioned paper.

1 The Execution Product

Let $F(x, y, z)$ be an Execution Product of variable arguments x, y, z defined in compatible and composable execution context E :

Let the index α denote the current execution domain of an execution product.

$F(x, y, z) = \prod_{\alpha=1}^n (x_{\alpha} \times y_{\alpha} \times z_{\alpha}) + C$. Where C is the Unknown Execution of $F(x, y, z)$ —now defined as $g(E)$.

2 The Unknown Execution Property

Let an ‘Unknown Execution’ U be defined regarding an execution product F

Let ‘Null’ be defined as \emptyset .

2.1 Properties

1. U shall not be equal to Null.
2. The execution domain of F shall not be Null.

3 References

1. El Mahrouss, A. (2026). The Execution Semantics: On Axioms, Domains, and Authority. (v2.0.0). Zenodo. <https://doi.org/10.5281/zenodo.18366611>