

# A quine program written in K-framework

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Usage: `kompile` and then run with `krun -output-mode=none`

MODULE QUINE-EXPLICIT

CONFIGURATION:

Diagram illustrating the transformation of a KQL query into a JSON string:

- k**: Input KQL query: `""`
- out**: Output JSON string: `"/*!"`
- prefix**: The resulting JSON string is used in a KQL query to retrieve the JSON data: `"\title{A quine program written in K-framework}"`

`suffix`

```
"" ↪ " syntax" ↪ " K ::= escape(String) [function]" ↪ " rule" ↪ " escape(S:String) => replaceAll(replaceAll(replaceAll(S, "\\|\\|\\|\\|", "\\|\\|\\|\\|\\|\\|"), "\\|\\n\\|", "\\|\\|\\|\\n\\|"), "\\|\\|\\|\\|\\|\\|", "\\|\\|\\|\\|\\|\\|\\|\\|")" ↪ "" ↪ " rule" ↪ " <k> (S1 => S1 +String P +String "\\n\\n\\n") ~> (S2 => S2 +String
```

**SYNTAX**  $K ::= \text{escape } (String) [\text{function}]$

$$\text{RULE} \quad \frac{\text{escape}(S)}{\text{replaceAll}(\text{replaceAll}(\text{replaceAll}(S, "\backslash", "\\\\"), "\n", "\\n"), "\'", "\\'")}$$

RULE

$\frac{S1 \curvearrowright S2}{\text{""} \curvearrowright \text{""}}$   $\frac{\bullet_K}{0}$   $\frac{\bullet_{List}}{S1 + \text{String } S2 + \text{String } ".\backslash n </prefix>\backslash n <suffix>\backslash n"}$

RULE

$$\frac{S1}{S1 + \text{String } P + \text{String } "\\n"} \curvearrowright \frac{S2}{S2 + \text{String } "\\\" + \text{String } \text{escape } (P) + \text{String } "\\\" \sim > \\n"}$$

suffix

$$\frac{P}{P \bullet K}$$

prefix

0

RULE

<div style="border: 1px solid black; border-radius: 15px; padding: 10px; width: 150px; text-align: center;"><div style="border: 1px solid black; width: 20px; margin: 0 auto; padding: 2px;">k</div><math display="block">\frac{S1 \curvearrowright S2}{\bullet_K}</math></div>	<div style="border: 1px solid black; border-radius: 15px; padding: 10px; width: 150px; text-align: center;"><div style="border: 1px solid black; width: 20px; margin: 0 auto; padding: 2px;">suffix</div><math display="block">\frac{\bullet_K}{0}</math></div>	<div style="border: 1px solid black; border-radius: 15px; padding: 10px; width: 300px; text-align: center;"><div style="border: 1px solid black; width: 20px; margin: 0 auto; padding: 2px;">out</div><math display="block">\frac{\bullet_{List}}{S2 + \text{String } ".\backslash n &lt;/\text{suffix}&gt;\backslash n" + \text{String } S1}</math></div>
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END MODULE