



Dynamic Functions

Introduction

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A Dynamic Function (operator) is an alternative function definition style suitable for defining small to medium sized functions. It bridges the gap between operator expressions: $rank \leftarrow \rho \circ \rho$ and full 'header style' definitions such as:

```
 $\nabla$  rslt ← larg func rarg; local...
```

In its simplest form, a dynamic function is an APL expression enclosed in curly braces {} possibly including the special characters α and ω to represent the left and right arguments of the function respectively. For example:

```
(+/ω)÷ρω} 1 2 3 4 Arithmetic Mean (Average)
2.5
3 {ω*÷α} 64 αth root
4
```

Dynamic functions can be named in the normal fashion:

```
mean ← {(+/ω)÷ρω}
mean (2 3)(4 5)
2.5 4.5
```

Dynamic Functions can be defined and used in any context where an APL function may be found, in particular:

- In immediate execution mode as in the examples above.
- Within a defined function or operator.
- As the operand of an operator such as each (¨).
- Within another dynamic function.

The last point means that it is easy to define nested local functions.

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