



WOLFRAM LANGUAGE & SYSTEM
Documentation Center



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Patterns

One of the unique strengths of the Wolfram Language is its powerful and succinct—yet highly readable—symbolic pattern language. Convenient both for immediate use in individual functions, and for systematic large-scale programming, the Wolfram Language's pattern language generalizes concepts like regular expressions to describe general patterns for arbitrary symbolic structures.

Basic Pattern Objects

`_` (**Blank**) — any expression (a "blank" to be filled in)

`x_` — any expression, to be referred to as x

`__` (**BlankSequence**) — any sequence of one or more expressions

`___` (**BlankNullSequence**) — any sequence of zero or more expressions

Composite Patterns

`p|p` (**Alternatives**) — any of several alternatives

`p..` (**Repeated**), `p...` (**RepeatedNull**) — a pattern to be repeated

`x:p` (**Pattern**) — an arbitrary pattern, to be referred to as x

Except — anything except a specified pattern

Longest, **Shortest** — longest, shortest possible matches

OptionsPattern ▫ **PatternSequence** ▫ **Verbatim** ▫ **HoldPattern**

OrderlessPatternSequence — elements in any order

KeyValuePattern — an association or list of rules containing specified elements

Restrictions on Patterns

`_h` — pattern with a specified head h (e.g. `_Integer`)

Condition (`/;`) — condition on a pattern (e.g. `x_ /; x > 7`)

PatternTest (`?`) — pattern with a function test (e.g. `_?NumberQ`)

Pattern Defaults

`_:e` (**Optional**) — pattern that defaults to e if omitted

`_.` (**Optional**) — pattern with predefined default

Default — predefined default arguments for a function

Attributes Affecting Patterns



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