

Sample Programming Language Dimensions

	C	Pascal	Java	Logo	Scheme	OCaml	Haskell
Paradigm	imperative	imperative	object-oriented	imperative/ functional	mostly functional	mostly functional	purely functional
Grammar	context-free	context-free	context-free	context-sensitive	context-free	context-free	mostly context-free, but whitespace matters
Block Structured	yes	no	no (but inner classes help)	no	yes	yes	yes
Functional Values	yes	can be passed as arguments, but not returned or stored	no	no	yes	yes	yes
Scoping	static	static	static	dynamic	static	static	static
Parameter Passing	by-value (but addresses are values)	by-value and by-reference	by-value	by-value	by-value	by-value	by-need
Type Checking	weak static	strong static (with some holes)	strong static	dynamic	dynamic	strong static	strong static
Parametric Polymorphism	for datatypes of same size	no	yes in 1.5, but not before	tagged data	tagged data	Hindley/Milner	Hindley/Milner
Properly Tail- Recursive	no	no	no	no	yes	some impls.	no
Array Bounds Checking	no	static	dynamic	N/A	dynamic	dynamic	dynamic
Heap Storage Deallocation	manual	manual	automatic	automatic	automatic	automatic	automatic