

# Syntax of $P^+$

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## 1 Syntax

Programs	$P$	$::=$	$\{d\}$	definition
Definitions	$d$	$::=$	$(\text{val } x \ e)$	bind name to expression
Expressions	$\langle exp \rangle$	$::=$	$x$	name
			$(\text{case } e \ \{(p \ e)\})$	case expression
			$K\{e\}$	value constructor application
			$e_1 \ e_2$	function application
Patterns	$p$	$::=$	$x$	name
			$K$	value constructor
			$(K \ \{p\})$	value constructor application
			$(p \ \text{when } e)$	side condition
Value Constructors	$K$	$::=$	$::$	cons
			$[]$	empty list
			$\#x$	name beginning with #
			$A\text{-}Zx$	name beginning with capital letter
			$[- +](0-9)^+$	signed integer literal

A **name** is any token that is not an integer literal, does not contain whitespace, a bracket, or parenthesis, and is not a value constructor name or a reserved word.

Would like help cleaning up the format on this.