

Table 1: Variables in DSL. The table shows the meaning of each kind of Variable and illustrates its representation in DSL and natural language with examples.

Variable type	Meaning	Example in natural language	Example in DSL
<i>Imm(name)</i>	An immediate argument	Let <i>ea</i> be the integer <i>i</i> + <i>memarg.offset</i>	<i>Imm(memarg.offset)</i>
<i>Opnd(type)</i>	An operand on the stack	Assert: due to validation, a value of value type i32 is on the top of the stack	<i>Opnd(i32)</i>
<i>Elem(Instance, idx)</i>	The element of index <i>idx</i> in <i>Instance</i>	Let <i>mem</i> be the memory instance <i>S.mems[a]</i>	<i>Inst(S.mems, a)</i>
<i>Constant(value)</i>	A constant value	If <i>c</i> is not 0 , then:	<i>Constant(0)</i>
<i>Expr(expression)</i>	An expression	Let <i>ea</i> be the integer <i>i</i> + <i>memarg.offset</i>	<i>Expr(i + memarg.offset)</i>
<i>Alias(name)</i>	An alias that refers to another Variable	Let <i>ea</i> be the integer <i>i</i> + <i>memarg.offset</i>	<i>Alias(ea)</i>