Syntax and Semantics of D

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November 24, 2023

1 Syntax

We present a grammar of D, the language of decision trees:

Decision Tree	$\mathcal{D}_\alpha$	::=	`case` x `of` $\{\mid K\{x\}$ `=>` $\mathcal{D}_\alpha\}[\mid x$ `=>`$\mathcal{D}_\alpha]$	test node
		$\mid$	α	match node
		$\mid$	`if` x `then` $\mathcal{D}_\alpha$ `else` $\mathcal{D}_\alpha$	condition with two children
		$\mid$	`let` x `=` e `in` $\mathcal{D}_\alpha$	let-bind a name
Expressions	e	::=	x	name
		$\mid$	$\mathcal{D}_e$	decision trees
		$\mid$	$K\{e\}$	value constructor application
		$\mid$	$e_1\ e_2$	function application

2 What is a decision tree?

Scott, Ramsey 2000:
A decision tree is a pattern-matching automaton in which every state except the initial state has a unique predecessor.

More details will go here as needed.