

CS320 Programming Languages

Exercise #4

Consider the following **F1VAE**

$d ::= \mathbf{def} \ x(x)=e$	function definition	$d \in \mathbf{FunDef}$
$e ::= n$	number	$e \in \mathbf{F1VAE}$
$e + e$	addition	$n \in \mathbb{Z}$
$\mathbf{val} \ x=e; e$	identifier introduction	$x \in \mathbf{Var}$
x	identifier	$\sigma \in \mathbf{Var} \xrightarrow{\text{fin}} \mathbb{Z}$
$x(e)$	function application	$\Lambda \in \mathbf{Var} \xrightarrow{\text{fin}} \mathbf{FunDef}$

Write the operational semantics of the form $\boxed{\sigma, \Lambda \vdash e \Rightarrow n}$.