

$\pi ::= \bar{\delta} e$	program	$\tau ::= P$	type parameter name
$\delta ::= \text{trait } T \llbracket v P <: \{\bar{\tau}\} \rrbracket <: \{T \llbracket \bar{\tau} \rrbracket\} \diamond \{T \llbracket \bar{\tau} \rrbracket\} \bar{\mu} \text{ end}$	trait declaration	$T \llbracket \bar{\tau} \rrbracket$	trait type
$\quad \text{object } O \llbracket P <: \{\bar{\tau}\} \rrbracket (\bar{z}:\bar{\tau}) <: \{T \llbracket \bar{\tau} \rrbracket\} \bar{\mu} \text{ end}$	object declaration	$O \llbracket \bar{\tau} \rrbracket$	object type
$\quad f \llbracket P <: \{\bar{\tau}\} \rrbracket (\bar{x}:\bar{\tau}) : \tau = e$	function declaration	$(\bar{\tau})$	tuple type
$\mu ::= m \llbracket \{\bar{\tau}\} <: P <: \{\bar{\tau}\} \rrbracket (\bar{x}:\bar{\tau}) : \tau = e$	method declaration	$\tau \rightarrow \tau$	arrow type
$v ::= \text{covariant} \mid \text{contravariant} \mid \text{invariant}$	variance	Any	special Any type
$e ::= x$	variable reference	Object	special Object type
$\quad \text{self}$	self reference	$P ::= \text{identifier}$	type parameter name
$\quad e.z$	field reference	$T ::= \text{identifier}$	generic trait name
$\quad x(\bar{e})$	function value application	$O ::= \text{identifier}$	generic object name
$\quad O \llbracket \bar{\tau} \rrbracket (\bar{e})$	object creation	$x ::= \text{identifier}$	variable name
$\quad f \llbracket \bar{\tau} \rrbracket (\bar{e})$	function invocation	$z ::= \text{identifier}$	field name
$\quad e.m \llbracket \bar{\tau} \rrbracket (\bar{e})$	method invocation	$f ::= \text{identifier}$	function name
$\quad e \text{ match } x:T \Rightarrow e \text{ else } e$	match expression	$m ::= \text{identifier}$	method name

Figure 1. Grammar for Welterweight Fortress