

## 1 Грамматика

$Program ::= Definitions Term$   
 $Definitions ::= Definition Definitions \mid \varepsilon$   
 $Definition ::= \mathbf{let} Var = Term$   
 $Term ::= Abstraction \mid Application \mid Atom$   
 $Abstraction ::= \backslash Params . Term$   
 $Params ::= Var Params \mid Var$   
 $Application ::= Atom AppTail$   
 $AppTail ::= Atom AppTail \mid \varepsilon$   
 $Atom ::= Var \mid (Term)$   
 $Var ::= [a - zA - Z]^+$

## 2 Примеры вывода

### 2.1 Пример 1: $\mathbf{let} K = \backslash x y.x$

$Program \rightarrow Definitions Term \rightarrow$   
 $Definition Definitions Term \rightarrow$   
 $\mathbf{let} Var = Term Definitions Term \rightarrow$   
 $\mathbf{let} K = Term Definitions Term \rightarrow$   
 $\mathbf{let} K = Abstraction Definitions Term \rightarrow$   
 $\mathbf{let} K = \backslash Params.Term Definitions Term \rightarrow$   
 $\mathbf{let} K = \backslash Var Params.Term Definitions Term \rightarrow$   
 $\mathbf{let} K = \backslash x Params.Term Definitions Term \rightarrow$   
 $\mathbf{let} K = \backslash x Var.Term Definitions Term \rightarrow$   
 $\mathbf{let} K = \backslash x y.Term Definitions Term \rightarrow$   
 $\mathbf{let} K = \backslash x y.Atom Definitions Term \rightarrow$   
 $\mathbf{let} K = \backslash x y.Var Definitions Term \rightarrow$   
 $\mathbf{let} K = \backslash x y.x Definitions Term \rightarrow$   
 $\mathbf{let} K = \backslash x y.x \varepsilon Term \rightarrow$   
 $\mathbf{let} K = \backslash x y.x \varepsilon \rightarrow$   
 $\mathbf{let} K = \backslash x y.x$

### 2.2 Пример 2: $(\backslash x.x y) z$

$Program \rightarrow Definitions Term \rightarrow \varepsilon Term \rightarrow$   
 $Application \rightarrow Atom AppTail \rightarrow (Term) AppTail \rightarrow$   
 $(Application) AppTail \rightarrow (Atom AppTail) AppTail \rightarrow$   
 $(Atom AppTail) AppTail \rightarrow (Abstraction AppTail) AppTail \rightarrow$   
 $(\backslash Params.Term AppTail) AppTail \rightarrow (\backslash Var.Term AppTail) AppTail \rightarrow$   
 $(\backslash x.Term AppTail) AppTail \rightarrow (\backslash x.Application AppTail) AppTail \rightarrow$   
 $(\backslash x.Atom AppTail AppTail) AppTail \rightarrow$   
 $(\backslash x.Var AppTail AppTail) AppTail \rightarrow$   
 $(\backslash x.x AppTail AppTail) AppTail \rightarrow$   
 $(\backslash x.x Atom AppTail) AppTail \rightarrow$

$(\backslash x.x\ y\ AppTail)\ AppTail \rightarrow$   
 $(\backslash x.x\ y\ AppTail)\ AppTail \rightarrow$   
 $(\backslash x.x\ y\ \varepsilon)\ AppTail \rightarrow$   
 $(\backslash x.x\ y)\ Var \rightarrow$   
 $(\backslash x.x\ y)\ z$