Lambda Grammar

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1 Grammar

$< program > ::= \ (let < variable > = < term >) \mid \ < term >$
$< term > ::= < variable > \ \mid \ < applique > \ \mid \ < abstraction > \ \mid (< term >)$
$< abstraction > ::= \ \backslash < variable > \ \{< variable >\}. < term >$
$< applique > ::= < term > < term > \ \{< term >\}$
$< variable > ::= < letter > \ \{< letter > \ \mid \ < digit >\}$
$< letter > ::= \ a \mid ... \mid z \mid A \mid ... \mid Z$
$< digit > ::= \ 1 \mid ... \mid 9$

2 Examlpe 1

$letK = \backslash x \ y.x \implies$
$< program >$
$let \ < variable > = < term >$
$let \ < letter > \ \{< letter > \ \mid \ < digit >\} \ = < term >$
$let \ K \ \{< letter > \ \mid \ < digit >\} \ = < term >$
$let \ K \ = < term >$
$let \ K \ = < abstraction >$
$let \ K \ = \ \backslash < variable > \ \{< variable >\}. < term >$
$let \ K \ = \ \backslash < letter > \ \{< letter > \ \mid \ < digit >\} \ \{< variable >\}. < term >$
$let \ K \ = \ \backslash < letter > \ \{< variable >\}. < term >$
$let \ K \ = \ \backslash x \ \{< variable >\}. < term >$
$let \ K \ = \ \backslash x \ < variable > \ \{< variable >\}. < term >$
$let \ K \ = \ \backslash x \ < letter > \ \{< letter > \ \mid \ < digit >\} \ \{< variable >\}. < term >$
$let \ K \ = \ \backslash x \ y \ \{< letter > \ \mid \ < digit >\} \ \{< variable >\}. < term >$
$let \ K \ = \ \backslash x \ y \ \{< variable >\}. < term >$
$let \ K \ = \ \backslash x \ y. < term >$
$let \ K \ = \ \backslash x \ y. < variable >$
$let \ K \ = \ \backslash x \ y. < letter > \ \{< letter > \ \mid \ < digit >\}$
$let \ K \ = \ \backslash x \ y.x \ \{< letter > \ \mid \ < digit >\}$
$let \ K \ = \ \backslash x \ y.x$

3 Example 2

$let \ gg \ = \ (\backslash l \ o.l) \ e \ z \implies$
$< program > let \ < letter > \ \{< letter > \ \mid \ < digit >\} \ = < term >$
$let \ g \ \{< letter > \ \mid \ < digit >\} \ = < term >$
$let \ g \ < letter > \ \{< letter > \ \mid \ < digit >\} \ = < term >$
$let \ gg \ \{< letter > \ \mid \ < digit >\} \ = < term >$
$let \ gg \ = < term >$
$let \ gg \ = < applique >$
$let \ gg \ = < term > < term > \ \{< term >\}$

$let\ gg\ =\ (<term>)\ <term>\ \{<term>\}$
$let\ gg\ =\ (<abstraction>)\ <term>\ \{<term>\}$
$let\ gg\ =\ (\backslash\ <variable>\ \{<variable>\}.\ <term>)\ <term>\ \{<term>\}$
$let\ gg\ =\ (\backslash\ <letter>\ \{<letter>\ |\ <digit>\}\ \{<variable>\}.\ <term>)\ <term>\ \{<term>\}$
$let\ gg\ =\ (\backslash l\ \{<letter>\ |\ <digit>\}\ \{<variable>\}.\ <term>)\ <term>\ \{<term>\}$
$let\ gg\ =\ (\backslash l\ \{<variable>\}.\ <term>)\ <term>\ \{<term>\}$
$let\ gg\ =\ (\backslash l\ <variable>\ \{<variable>\}.\ <term>)\ <term>\ \{<term>\}$
$let\ gg\ =\ (\backslash l\ <letter>\ \{<letter>\ |\ <variable>\}\ \{<variable>\}.\ <term>)\ <term>\ \{<term>\}$
$let\ gg\ =\ (\backslash l\ o\ \{<letter>\ |\ <variable>\}\ \{<variable>\}.\ <term>)\ <term>\ \{<term>\}$
$let\ gg\ =\ (\backslash l\ o\ \{<variable>\}.\ <term>)\ <term>\ \{<term>\}$
$let\ gg\ =\ (\backslash l\ o.\ <term>)\ <term>\ \{<term>\}$
$let\ gg\ =\ (\backslash l\ o.\ <variable>)\ <term>\ \{<term>\}$
$let\ gg\ =\ (\backslash l\ o.\ <letter>\ \{<letter>\ |\ <digit>\})\ <term>\ \{<term>\}$
$let\ gg\ =\ (\backslash l\ o.l\ \{<letter>\ |\ <digit>\})\ <term>\ \{<term>\}$
$let\ gg\ =\ (\backslash l\ o.l)\ <term>\ \{<term>\}$
$let\ gg\ =\ (\backslash l\ o.l)\ <variable>\ \{<term>\}$
$let\ gg\ =\ (\backslash l\ o.l)\ <letter>\ \{<letter>\ |\ <digit>\}\ \{<term>\}$
$let\ gg\ =\ (\backslash l\ o.l)\ e\ \{<letter>\ |\ <digit>\}\ \{<term>\}$
$let\ gg\ =\ (\backslash l\ o.l)\ e\ \{<term>\}$
$let\ gg\ =\ (\backslash l\ o.l)\ e\ <term>\ \{<term>\}$
$let\ gg\ =\ (\backslash l\ o.l)\ e\ <variable>\ \{<term>\}$
$let\ gg\ =\ (\backslash l\ o.l)\ e\ <letter>\ \{<letter\ |\ <digit>\}\ \{<term>\}$
$let\ gg\ =\ (\backslash l\ o.l)\ e\ z\ \{<letter\ |\ <digit>\}\ \{<term>\}$
$let\ gg\ =\ (\backslash l\ o.l)\ e\ z\ \{<term>\}$
$let\ gg\ =\ (\backslash l\ o.l)\ e\ z$