Homework 8

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September 2023

1 Grammar

1. "program" ::= "term" | "let-definitions" \n "term"
2. "let-definitions" ::= "let-definition" "let-definitions" | "let-definition"
3. "let-definition" ::= let "variable" = "term" \n
4. "term" ::= "term'" | "application" | "abstraction"
5. "term'" ::= "variable" | ("term")
6. "application" ::= "term'" "term'" | "term'" "application"
7. "abstraction" ::= λ "variables"."term"
8. "variables" ::= "variable" | "variable" "variables"
9. "variable" ::= "letter" | "letter-or-digit-string"
10. "letter-or-digit-string" ::= "letter-or-digit" | "letter-or-digit" "letter-or-digit-string"
11. "letter-or-digit" ::= "letter" | "digit"
12. "letter" ::= a | b | ... | z | A | B | ... | Z
13. "digit" ::= 1 | 2 | ... | 3

2 Example

let A = λx y.x (y x) \n A

1. program
2. "let-definitions" \n "term"
3. "let-definition" \n "term"
4. let "variable" = "term" \n "term"

5. let "letter" = "term" \n "term"
6. let A = "term" \n "term"
7. let A = "abstraction" \n "term"
8. let A = λ "variables"."term" \n "term"
9. let A = λ "variable" "variables"."term" \n "term"
10. let A = λ "variable" "variable"."term" \n "term"
11. let A = λ "letter" "variable"."term" \n "term"
12. let A = λx "variable"."term" \n "term"
13. let A = λx "letter"."term" \n "term"
14. let A = λx y."term" \n "term"
15. let A = λx y."application" \n "term"
16. let A = λx y."term"" "term"" \n "term"
17. let A = λx y."variable" "term"" \n "term"
18. let A = λx y."letter" "term"" \n "term"
19. let A = λx y.x "term"" \n "term"
20. let A = λx y.x ("term") \n "term"
21. let A = λx y.x ("application") \n "term"
22. let A = λx y.x ("term"" "term"") \n "term"
23. let A = λx y.x ("variable" "term"") \n "term"
24. let A = λx y.x ("letter" "term"") \n "term"
25. let A = λx y.x (y "term"") \n "term"
26. let A = λx y.x (y "variable") \n "term"
27. let A = λx y.x (y "letter") \n "term"
28. let A = λx y.x (y x) \n "term"
29. let A = λx y.x (y x) \n "term""
30. let A = λx y.x (y x) \n "variable"
31. let A = λx y.x (y x) \n "letter"
32. let A = λx y.x (y x) \n A