

CS 315: Programming Languages

Lexical Analyser for a Programming Language for an Integer Language

Language: ***HazardCat***

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Section: 2

Group: 14?

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Instructor:

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1. <main > =: execute begin <program> end
2. <program> :: = <statements>
3. <statements>::= <statement>|< statements> +<statement>
4. <statement>:: =<cond\_statement> | <loop> | <single\_statement>|<statement>
5. <cond\_statement>::= if (<single\_statement>){<statements>}| else\_if (<single\_statement>){<staments>}|else{<staments>}
6. <loop>::= <for>|<while>
7. <for>::=for (<var\_name>=<expr>(<cond\_statement>)){<statements>}
8. <while>::= while (<expr>){statements}
9. <single\_statement>::=<type><var\_name>=<exprs>|<return\_st>|<list\_stat>
10. <return\_stat>::=return <exprs>
11. <list\_stat>::= let [] <var\_name>=list<size>
12. <list\_assign>::= <var\_name> = {<list\_expr>}
13. <list\_expr>::=<exprs>|<expr>
14. <exprs>::= <expr>+<expr>|<expr>\*<expr>|expr
15. <expr>::=<var\_name>|<var\_name>+<expr>|<constant>
16. <var\_name>::=<lower\_lets>|<lower\_lets>+<upper\_let>|<lower\_lets>+<upper\_lets>+<nums>
17. <func>::=func<var\_name>(<parameters>){<statements>}
18. <parameters>::=int<var\_name>
19. <input\_scan>::=read<exprs>
20. <string>::=<lower\_lets>|upper\_lets>|< digits>|<special\_buts>
21. <lower\_lets>::= a|b|c|d|e|f|g|h|i|j|k|l|m|n|o|p|q|r|s|t|u|v|w|x|y|z |<lower\_lets>
22. <upper\_let>::= A|B|C|D|E|F|G|H|I|J|K|L|M|N|O|P|Q|R|S|T|U|V|W|X|Y|Z|<upper\_let>
23. <special\_buts>::=/|.|,|\*|&|^|%|$|#|@!|~
24. <compare>::=< | > | <= | >= | == | !=
25. <negative>::=-(number)
26. <number>::=<digits><digits>|<digits>| <negative><digits>|<negative>
27. <digits>::=0|1|2|3|4|5|6|7|8|9
28. <comments>::= #
29. <print>::=print(<number>|<expr>|<string>)
30. <print\_line>::=print\_line+<print>