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Lab 4 (part 1)

https://github.com/cinnamonbreakfast/flcd/tree/main/lab4_1

Data represented on:

States: List<String>

Alphabet: List<String>

Transitions: Dict<String, List<String>> # some sort of key: pair

Final states: List<String>

(Using functional programming, no classes)

Predefined tokens are emphasized.

Program ::= **entry** cmpdstmt **;**

Type ::= **bool** | **int** | **char** | **string**
Assignstmt ::= IDENTIFIER **=** expression
decl ::= declstmt | declasgnstmt
Declstmt ::= type IDENTIFIER
Declasgnstmt ::= type IDENTIFIER **=** expression

Cmpdstmt ::= **{** stmtlist **}**
Stmtlist ::= stmt | stmt **;** stmtlist
Stmt ::= simplstmt | structstmt
Simplstmt ::= assignstmt | decl | iostmt
Iostmt ::= **INPUT(** IDENTIFIER **) | WRITE(** IDENTIFIER **)**

Value ::= integer_const | character | string_const | IDENTIFIER | arrayAccess | expression
Expression ::= value arithmetic_ops **(** expression **)**
Arithmetic_ops ::= + | - | / | *
Term ::= term ***** factor | factor | arrayAccess
Factor ::= **(** expression **)** | IDENTIFIER

Structstmt ::= cmpdstmt | ifstmt | whilestmt
Whilestmt ::= **while (** condition **)** cmpdstmt
Ifstmt**::= if(** CONDITION **)** cmpdstmt **else** cmpdstmt
Condition ::= expression RELATION expression
Relation ::= **<** | **<=** | **==** | **>=** | **===** | **>**

Arraydecl ::= type IDENTIFIER **[** number **]**
arrayAccess::= IDENTIFIER[IDENTIFIER]
Mapdecl ::= **map{** type : type **}**
mapAccess ::= IDENTIFIER[IDENTIFIER]

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TOKEN LIST:

+ - * / := < <= = >= === ~ % & ^ **array, map, const, do, else, if, int, elif while, for, range, class, struct, string, float, char, boolean, input, print, return, fun, key, value, main, entry**