Tarea Corta #2

Imparables 2.0

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1. **(2p) La lista (nombres nada más) de los tokens.**

'COMMENT', 'LBRACKET', 'RBRACKET', 'COLON', 'MESSAGE', 'BEGIN_DIAGNOSTIC', 'END_DIAGNOSTIC', 'CHECK', 'TIMESTAMP', 'LOGLEVEL', 'ENTRY', 'ARROW', 'LBRACE', 'RBRACE', 'RESULT', 'LATENCY', 'STRING', 'SEMICOLON', 'BEGIN_CRASH_REPORT', 'END_CRASH_REPORT', 'BEGIN_BOOT_SEQUENCE', 'END_BOOT_SEQUENCE', 'COMMA', 'NUMBER', 'IDENTIFIER', 'MINUS', 'BEGIN_BACKUP', 'END_BACKUP', 'SOURCE', 'DESTINATION', 'FILE_LIST', 'BEGIN_BACKUP_UPDATE', 'END_BACKUP_UPDATE', 'PROGRESS', 'DETAILS', 'VIDEO', 'AUDIO', 'STORAGE', 'NETWORK', 'PASS', 'FAIL', 'STEP', 'STACK_TRACE', 'FUNCTION', 'LIINE'.

2. **(5p) La especificación formal de la gramática: G = {V, T, P, S}**

   a. **Símbolos no terminales(V):**

      S, ENTRIES, ENTRY, COMMENT_LINE, LOG_LINE, BLOCKS, BLOCK, DIAGNOSTIC_BLOCK, CHECK_LIST, CHECK_LINE, RESULT_VALUE, BOOT_BLOCK, STEP_LIST, STEP_LINE, CRASH_BLOCK, CRASH_CONTENT, ERROR_CODE_LINE, MESSAGE_LINE, STACK_TRACE_LINE, STACK_ITEMS, STACK_ITEM, FUNCTION_LINE, LINE_LINE, BACKUP_BLOCK, BACKUP_CONTENT, SOURCE_LINE, DESTINATION_LINE, FILE_LIST_LINE, FILE_ENTRIES, BACKUP_UPDATE_LIST, BACKUP_UPDATE_BLOCK, BACKUP_UPDATE_CONTENT, TIMESTAMP_LINE, PROGRESS_LINE, DETAILS_LINE.

   b. **Símbolos terminales(T):**

      COMMENT, LBRACKET, RBRACKET, COLON, MESSAGE, BEGIN_DIAGNOSTIC, END_DIAGNOSTIC, CHECK, TIMESTAMP, LOGLEVEL, ENTRY, ARROW, LBRACE, RBRACE, RESULT, LATENCY, STRING, SEMICOLON, BEGIN_CRASH_REPORT, END_CRASH_REPORT, BEGIN_BOOT_SEQUENCE, END_BOOT_SEQUENCE, COMMA, NUMBER, IDENTIFIER, MINUS, BEGIN_BACKUP, END_BACKUP, SOURCE, DESTINATION, FILE_LIST, BEGIN_BACKUP_UPDATE, END_BACKUP_UPDATE, PROGRESS, DETAILS, VIDEO, AUDIO, STORAGE, NETWORK, PASS, FAIL, STEP, STACK_TRACE, FUNCTION, LINE.

   c. **Producciones(P):**

      Las producciones serán descritas en la pregunta #3.

   d. **Símbolo inicial(S):**

      S

3. (43p) El conjunto A de producciones que conforman la gramática.

(1) S → ENTRIES

(2) ENTRIES → ENTRY ENTRIES
| ENTRY

(3) ENTRY → COMMENT_LINE
| LOG_LINE BLOCKS
| LOG_LINE

(4) COMMENT_LINE → COMMENT

(5) LOG_LINE → LBRACKET TIMESTAMP RBRACKET LOGLEVEL COLON ENTRY NUMBER COLON MESSAGE

(6) BLOCKS → BLOCK BLOCKS
| BLOCK

(7) BLOCK → DIAGNOSTIC_BLOCK
| BOOT_BLOCK
| CRASH_BLOCK
| BACKUP_BLOCK

(8) DIAGNOSTIC_BLOCK → BEGIN_DIAGNOSTIC CHECK_LIST END_DIAGNOSTIC

(9) CHECK_LIST → CHECK_LINE CHECK_LIST
| CHECK_LINE

(10) CHECK_LINE → CHECK
COLON
STRING
ARROW
LBRACE
RESULT COLON RESULT_VALUE
COMMA
LATENCY COLON STRING
RBRACE
SEMICOLON

ejemplo (10): CHECK: "video" -> { result: "pass", latency: "28ms" };

(11) RESULT_VALUE → PASS
| FAIL
| STRING

(12) BOOT_BLOCK → BEGIN_BOOT_SEQUENCE STEP_LIST END_BOOT_SEQUENCE

(13) STEP_LIST → STEP_LINE STEP_LIST
| STEP_LINE

(14) STEP_LINE → STEP COLON STRING SEMICOLON

(15) CRASH_BLOCK → BEGIN_CRASH_REPORT CRASH_CONTENT END_CRASH_REPORT

(16) CRASH_CONTENT → ERROR_CODE_LINE
MESSAGE_LINE
STACK_TRACE_LINE

(16) Asumiendo que siempre aparece ERROR_CODE, MESSAGE y STACK_TRACE dentro del bloque.

(17) ERROR_CODE_LINE → IDENTIFIER COLON NUMBER SEMICOLON

(18) MESSAGE_LINE → IDENTIFIER COLON STRING SEMICOLON

(19) STACK_TRACE_LINE → STACK_TRACE
COLON
LBRACKET STACK_ITEMS RBRACKET
SEMICOLON

(20) STACK_ITEMS → STACK_ITEM COMMA STACK_ITEMS
| STACK_ITEM

(21) STACK_ITEM → LBRACE FUNCTION_LINE COMMA LINE_LINE RBRACE

(22) FUNCTION_LINE → FUNCTION COLON STRING

(23) LINE_LINE → LINE COLON NUMBER

(24) BACKUP_BLOCK → BEGIN_BACKUP BACKUP_CONTENT END_BACKUP

(25) BACKUP_CONTENT → SOURCE_LINE
DESTINATION_LINE
FILE_LIST_LINE
BACKUP_UPDATE_LIST

(26) SOURCE_LINE → SOURCE COLON STRING SEMICOLON
(26) EJEMPLO: SOURCE: "/data/source_30.bin";

(27) DESTINATION_LINE → DESTINATION COLON STRING SEMICOLON

(28) FILE_LIST_LINE → FILE_LIST
COLON
LBRACKET FILE_ENTRIES RBRACKET
SEMICOLON
(28) EJEMPLO: FILE_LIST: [
"file_0_30.dat",
];

(29) FILE_ENTRIES → STRING COMMA FILE_ENTRIES
| STRING COMMA
| STRING

(30) BACKUP_UPDATE_LIST → BACKUP_UPDATE_BLOCK BACKUP_UPDATE_LIST
| ε

(30) Puede haber varias secciones BEGIN_BACKUP_UPDATE ... END_BACKUP_UPDATE, o ninguna.

(31) BACKUP_UPDATE_BLOCK → BEGIN_BACKUP_UPDATE BACKUP_UPDATE_CONTENT END_BACKUP_UPDATE

(32) BACKUP_UPDATE_CONTENT → TIMESTAMP_LINE
PROGRESS_LINE
DETAILS_LINE

(33) TIMESTAMP_LINE → TIMESTAMP COLON STRING SEMICOLON

(34) PROGRESS_LINE → PROGRESS COLON NUMBER SEMICOLON

(35) DETAILS_LINE → DETAILS COLON STRING SEMICOLON