VJ Davey Gee Programming Language HW 1

Write a Grammar that accepts programs in the Gee Programming Language. A concrete grammar for the statement portion of Gee.

Program - > Statement { Eoln Statement}

Statement -> Assigment | Loop-Statement | If-Statement | Function-Call

Assignment -> Indentifier **=** Expression

Loop-Statement->**while** Expression **: Eoln** Indent {Statement} Eoln Undent

If-Statement ->**if** Expression **: Eoln Indent** {Statement} **Eoln Undent** [**else : Indent** {Statement} **Undent**]

Function-Call-> Identifier ([{Expression,} Expression])

Expression -> Conjunction {**or** Conjunction }

Conjunction -> Relation {**and** Relation}

Relation -> Addition [RelOp Addition]

RelOp -> == | != | < | <= | > | >=

Addition -> Term{ AddOp Term}

AddOp -> **+ | -**

Term -> Primary{ MulOp Primary}

MulOp -> * **| / | %**

Primary -> Identifier | Literal | (Expression) | FunctionCall

Literal -> IntLiteral | StringLiteral

IntLiteral -> Digit{Digit}

StringLiteral -> Char|Digit{Char|Digit}

Identifier -> Letter{Digit|Letter}

Letter -> **a|b|...|z|A|B|....|Z**

Digit - > **0|1|...|9**

Char - > **'ASCIIChar'**

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Grammar Symbols:

[ ] - optional   { } - pick none or more   / / - pick one   -> derives to | or

bold - terminal symbols   *italics - non-terminal symbols*

Indent -> indicates the indentation level increased

Undent->indicates the indentation level decreased.

Eoln ->indicates an end-of-line.