***BNF for Declaration Variable***

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level :- 3

id :- 20140218

معيد :- م / اسلام جمال

subject :- concept

S :<ExpressionStatement>

--><Statement>EndOfStatement|

<Statemnet>EndOfStatement<ExpressionStatement>

<Statement> --> <DataType><nameVar>

|<Array>|<ArrayList>|<DataStructure>|<Pointer>

<DataType> --> <Primitive>|<NonPrimitive>

<Primitive> --> INT |FLOAT|DOUBLE|BOOL|CHAR

<NonPrimitive> --> Integer|Double|STRING|BOOLEAN|Float|<Oop>

<Oop> --> <OopType><NameVar>

<OopType> --> STRUCT|CLASS

<Array> --> (<Primitive>|<NonPrimitive>) <NameVar>LSQUARE<const>RSQUARE

<ArrayList> --> <ArrayListType> LANGLE < NonPrimitive>RANGLE <NameVar>

<ArrayListType> --> (ARRAYLIST|LIST)

<DataStructure> --> (DataStructureType) <NameVar>LPairBracket <const>RPairBracket

<DataStructureType> --> (HASHMAP|DICTIONARY)

<Pointer> --><DataType><PointerChars> <NameVar>

<PointerChars>-->PointerChar|

PointerChar<PointerChars>

<const>-->Number

<NameVar>-->Name

***Tockens :-***

Name :[a-zA-Z\_]{ a-zA-Z0-9}

Number :[0-9]{0-9}

PointerChar : #

OneLineComment : @

multiLineComment : /\* ....\*/

EndOfStatement : .

LSQUARE : [

RSQUARE : ]

LPairBracket : (

RPairBracket : )

LANGLE : <

RANGLE : >

Example :-

@Primitive DataType

int x.

float x.

char x.

bool x.

double x.

@NonPrimitive DataType

Integer x.

String x.

Double x.

Float x.

Boolean x.

@Oop NonPrimitive DataType

Struct Strundent st.

Class Person Ahmed.

@Pointer

char ##x.

Class Studnet ##x.

Integer #x.

@Array "Primitive & Non Primitive "

bool x[10].

Boolean x[10].

Struct x x.

@ArrayList/List must be NonPrimitive DataType

ArrayList/List <Integer> x.

ArrayList/List <class student > st.

@HashMap or Dictionary

HashMap x(5). (5 is size of hashMap)

Dict x(10).

@single line Comment

/\*

multiline Comment

\*/