Emerging Languages and Programming Paradigm
Project: Group - 41

P → Program

K → Block

DECL → Declaration

DECL_VARIABLE → declaring variables

ASS_VARIABLE → Assignment Declaration Variables

CMD → Command

NC → New Command

AE → Arithmetic Expression

BE → Boolean Expression

EXP → Print Expression

STRING → String Function

TEMP → Temporary Term for String

BOOL_VAL -> True or False T -> Term

I → Identifier
N → Integer
CH → Character
SUB_VAR → Identifier or Integer

Keywords: start,finish, int, bool, st, if, then, else, fi, while, begin,end,for, in range, print, not

P::= K .
K ::= start DECL; CMD finish

DECL ::= ASS_VARIABLE ; DECL | DECL_VARIABLE ; DECL |
ASS_VARIABLE | DECL_VARIABLE

ASS_VARIABLE ::= int I = N | bool I = BOOL_VAL | st I = STRING

DECL_VARIABLE ::= int I | bool I | st I

CMD ::= NC; CMD | NC

NC ::= I = AE | if BE then CMD else CMD fi | while BE begin CMD end |
for(int I = AE; BE ; AE) begin CMD end | for I in range(N,N) begin CMD
end | BE? CMD : CMD | print (EXP) | K

EXP ::= AE;EXP | BE;EXP | STRING; EXP | AE | BE | STRING

STRING ::= "TEMP"
TEMP ::= I TEMP | N TEMP | I | N

BE ::= SUB and BE | SUB or BE | not SUB | SUB

SUB ::= AE==AE | AE>AE | AE<AE | AE>= AE | AE<=AE | AE!= AE |
BOOL_VAL

BOOL_VAL ::= true|false

AE ::= I:=T|T
T::=T + T2 | T – T2 | T2

T2::= T2 * T3 | T2 / T3 | T3

T3 ::= (AE)| I |N

I ::= [a,z]

N := [0,9]