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PROGRAM = {INCLUDE}, TYPE, "main", LP , {IDENTIFIER}, RP, LCB,
          {STATEMENT}, ["return", NUMBER | "0" | IDENTIFIER | "" |
          {ASCII CODE}, ";"] RCB .

LETTER = "A" | "B" | "C" | "D" | "E" | "F" | "G" | "H" | "I" | "J" |
"K" | "L" | "M" | "N" | "O" | "P" | "Q" | "R" | "S" | "T" | "U" | "V"
| "W" | "X" | "Y" | "Z" | "a" | "b" | "c" | "d" | "e" | "f" | "g" |
"h" | "i" | "j" | "k" | "l" | "m" | "n" | "o" | "p" | "q" | "r" | "s"
| "t" | "u" | "v" | "w" | "x" | "y" | "z" .

DIGIT= "0" | "1" | "2" | "3" | "4" | "5" | "6" | "7" | "8" | "9" .
NONZERONUMBER = "1" | "2" | "3" | "4" | "5" | "6" | "7" | "8" | "9",
               {DIGIT} .

IDENTIFIER = LETTER{ LETTER | DIGIT | "_" } ;
NUMBER = ["-"] , "0" | NONZERONUMBER;
INCLUDE = "#include", ("<", IDENTIFIER , ">" , ";") | ( " " "
               , IDENTIFIER, " " ", ";" ) .
TYPE = "int" | "bool" | "std::string" | "double" | "float" .
USERTYPE = IDENTIFIER.
ARRAY = TYPE | USERTYPE, IDENTIFIER, "[", NONZERONUMBER, {NUMBER}, "]",
       ";" .

STATEMENT = VARIABLEDECLARATION | ASSIGNMENT | ARITHMETICASSIGNMENT |
           (IDENTIFIER, LP , {IDENTIFIER}, RP ) .

VARIABLEDECLARATION = (TYPE | USERTYPE, IDENTIFIER) | ARRAY, ";" .
ASSIGNMENT = IDENTIFIER, "=", ( "new", USERTYPE | TYPE)
            | VARIABLE | NUMBER , ";" .

BREAK = "break", ";" .

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ARITHMETICASSIGNMENT = POSTINCREMENT | PREINCREMENT
                    | ([ "+" | "-" ], IDENTIFIER,
                    { "+" | "-" | "*" | "/" , IDENTIFIER }, ";" ) .
CONDITION = IDENTIFIER | NUMBER, ("=" | "<" | "<=" | ">" | ">="

```

```
| "!="), IDENTIFIER | NUMBER | "true" | "false" .
```

```
IF = "if" , LP , CONDITION, [AND | OR] {CONDITION}, RP ,  
    STATEMENT | (LCB , STATEMENT, {STATEMENT} , RCB )  
    [ ("else",STATEMENT) | "elseif", LP , CONDITION, [AND | OR]  
    {CONDITION}, RP ,LCB, {STATEMENT},RCB .
```

```
OUTPUT = "std::cout<<", IDENTIFIER | NUMBER | ("'" , {ASCII CODE},  
    "'"), ";" .  
INPUT = "std::cin>>", IDENTIFIER, ";" .  
LOOP = "while", LP, ("true" | "false") | ( CONDITION, {AND |  
    OR, CONDITION},RP, LCB, STATEMENT, {STATEMENT}, RCB.
```

```
LP="(" .  
RP=")" .  
LCB="{ " .  
RCB="} " .  
OR="||" .  
AND="&&" .  
COMMENT = "//", {ASCII CODE} .  
POINTER = "*", IDENTIFIER .  
PREINCREMENT = "++" | "--", IDENTIFIER .  
POSTINCREMENT = IDENTIFIER, "++" | "--" .
```