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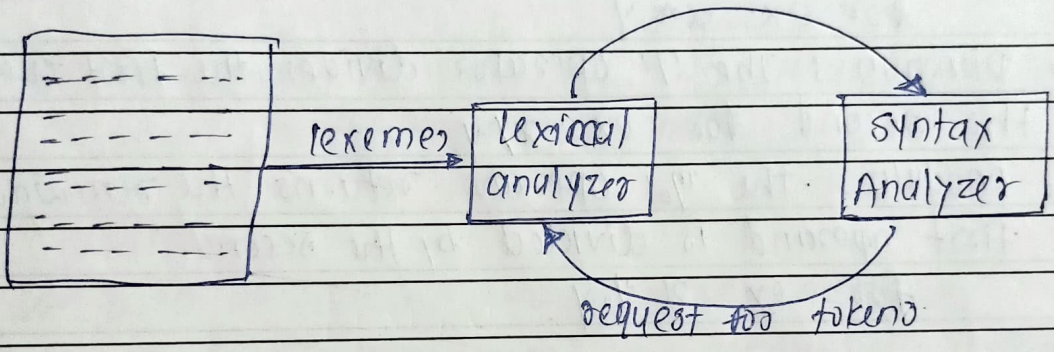
Practical No. 04

Title :- Write a C program to simulate lexical analyzer for validating operator.

Theory :-

lexical analysis is first phase of a compiler. It takes the modified source code from language preprocessor that are written in the form of sentences.



C- operators :- An operator is a symbol that tells the compiler to perform specific mathematical or logical function. C language is rich in build in operator and provides the following types of operator

- Arithmatic operators
- Relational operators
- logical operator
- Bitwise operator
- Assignment operator

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Arithmetic operators: These are used to perform arithm operation on operands
The binary operators falling in this category are.
- Addition:- The '+' operator adds two operands
  for ex. x+y
- Subtraction:- The '-' operator subtracts two operand
  for ex x-y
- Multiplication:- The '*' operator multiplies two oper
  for ex x*y
- Division: The '/' operator divides the first operand the second for ex. x/y.
- Modulo: The '%' operator returns the remainder w first operand is divided by the second.
  for ex x%y.

Relational operator:
- Relational operators are used for comparision of two value let's see them one by one
* '==' operator checks whether the two given operand are equal or not It so it returns true otherwise it return false for ex. 5==5 will retur true.
* '!=' operator checks whether the two given operands a equal or not If not it return true otherwise it retur false. It is the exact boolean complement of the '== operator for ex. 5!=5 will return false

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- '>' operator checks whether the first operand is greater than the second operand. It so it return true.

- '<' operator check whether the first opera is lesser than the second operand.

- '>=' operator checks whether the first operand is greater than or equal to the second operand.

- '<=' operator checks whether the first operand is lesser than or equal to the second operand.

Logical Operators:
They are used to combine two or more conditions/ constraints or to complement the evaluation of the original condition is consideration.

* logical AND: The '&&' operator returns true when both the cond^n in consideration are satified. otherwise it return false for ex a && b return true when both a and b are true.

* Logical OR: The "||" operator return true when one (or both) of the cond^n in consideration is satified. otherwise it returns false for ex. a||b returns true if true of a or b is true

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Bitwise operator :-

- In the C following 6 operators are bitwise operat
- & (bitwise AND) takes two number as operand
does AND on every bit of two number the res
of AND is 1 only if bits are 1

* | (bitwise OR) takes two numbers as operand and
OR an every bit of two no the result of OR is 1
of the two bits is 1.

* ^ (bitwise XOR) takes two as operand and does XO
on every bit of two number the result of XOR
if the two bits are different.

Assignment operator :-
An Assignment operator is used to form an assign
expression which assigns the value to an identifier
the most commonly used assignment operator is =

Result :-
thus the program to stimulate lexical ana
was executed and output was verified successfully.

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