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8/11/21 Cycle 2 : Expt 5

MDL18CS06C
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Aim :

To convert the BNF rules ~~to recognize a valid variable which~~ into YACC form and write code to generate abstract syntax tree.

Algorithm :

1. Step 1 : Start
2. Step 2 : Include the header file.
3. Step 3 : In the lex file, declare the no as integer and assign it to be equal to '1'.
4. Step 4 : Start the LEX file with declarative section.
5. Step 5 : In translation rules define keywords, data types and integer along with their actions.
6. Step 6 : Start the main block. In main block check the statement.
7. Step 7 : 1. declarative 2. assignment 3. conditional 4. if and else 5. while assignment.
8. Step 8 : Perform the actions of that particular block.
9. Step 9 : In main program declare the parameters argc as int and *argv[] as char.
10. Step 10 : In main program open file in read mode.
11. Step 11 : Print the output in a file.

Result :

Output was obtained successfully.

Teacher's Signature _____

Cycle 2

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Question 5

Convert the BNF rules into YACC form and write code to generate abstract syntax tree

Input:

```c
main()
{
    int a, b, c;
    if (a < b)
    {
        a = a + b;
    }
    while (a < b)
    {
        a = a + b;
    }
    if (a <= b)
    {
        c = a - b;
    }
    else
    {
        c = a + b;
    }
}
```

Output :

```
C:\Users\malav\OneDrive\Documents\CDLab\Cycle2\Pg6>a input.c


                ----------------------------
                Pos Operator Arg1 Arg2 Result
                ----------------------------
                0       <       a       b       t0
                1       ==      t0      FALSE   5
                2       +       a       b       t1
                3       =       t1              a
                4       GOTO                    5
                5       <       a       b       t2
                6       ==      t2      FALSE   10
                11      ==      t4      FALSE   15
                12      -       a       b       t5
                13      =       t5              c
                14      GOTO                    17
                15      +       a       b       t6
                16      =       t6              c
                ----------------------------
```