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| **Name:**Liya Elizabeth Joe  **RollNo:**48 |
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| **Recognition of Expression** |
| **Aim:** Lex and yacc program to recognize arithmetic expressions having numbers and identifiers and using all basic operations such as +,-,\*,/ . |
| **Program**  **Lex Program**  %{  #include "y.tab.h"  %}  %%  [a-zA-Z\_][a-zA-Z\_0-9]\* return id;  [0-9]+(\.[0-9]\*)? return num;  [+/\*] return op;  . return yytext[0];  \n return 0;  %%  int yywrap()  {  return 1;  }  **Yacc Program**  %{  #include<stdio.h>  int valid=1;  %}  %token num id op  %%  start : s  s : id x  | num x  | '-' num x  | '(' s ')' x  | id '=' s  ;  x : op s  | '-' s  |  ;  %%  int yyerror()  {  valid=0;  printf("\nInvalid expression!\n");  return 0;  }  int main()  {  printf("\nEnter the expression:\n");  yyparse();  if(valid)  {  printf("\nValid expression!\n");  }  } |
| **Result:** Implemented a to recognize arithmetic expressions having numbers and identifiers and using all basic operations such as +,-,\*,/ . |
| **Remarks:**(To be filled by faculty) |
| **Algorithm**  **Lex Program**   1. Start 2. In rules part separate identifiers,numbers and operators. 3. Stop   **Yacc Program**   1. Start 2. Read the expression 3. Check the validation of the expression according to the rules in yacc 4. Using rules print if the expression is valid or not. 5. Stop   **Sample Input and Output** |