

**Compiler Construction Lab**

**Practical 9**

**Submitted To:**

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**PRACTICAL 9**

AIM - Parser for ''FOR'' loop statements.

| **file.l**  %{  #include <stdio.h>  #include "y.tab.h"  %}  %%  [ \t]+ ; /\* Skip all whitespace characters \*/  "for" { return FOR; }  "(" { return LPAREN; }  ")" { return RPAREN; }  "{" { return LBRACE; }  "}" { return RBRACE; }  ";" { return SEMICOLON; }  "=" { return ASSIGN; }  [a-zA-Z]+ { return IDENTIFIER; }  [0-9]+ { return NUMBER; }  . { printf("Invalid character:%s\n", yytext); }  %%  int yywrap(void) { return 1; }    **file.y**  %{  #include <stdio.h>  #include <stdlib.h>  void yyerror(char \*s);  int yylex(void);  %}  %token FOR LPAREN RPAREN LBRACE RBRACE SEMICOLON ASSIGN IDENTIFIER NUMBER  %%  program:  for\_loop  ;  for\_loop:  FOR LPAREN initialization SEMICOLON condition SEMICOLON update RPAREN LBRACE body RBRACE  {  printf("Valid FOR loop structure\n");  }  ;  initialization:  IDENTIFIER ASSIGN NUMBER  ;  condition:  IDENTIFIER  ;  update:  IDENTIFIER  ;  body:  /\* Empty for simplicity\*/  ;  %%  void yyerror(char \*s) { fprintf(stderr, "Error: %s\n", s); }  int main(void) {  yyparse();  return 0;  } |
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| suhami@LAPTOP-OTTF73G6:~/CC$ lex for\_09\_084.l  suhami@LAPTOP-OTTF73G6:~/CC$ gcc y.tab.c lex.yy.c -o for\_parser -lfl  suhami@LAPTOP-OTTF73G6:~/CC$ ./for\_parser  for(i=10; i; i) { }  Valid FOR loop structure  for(i=; i; i;) { }  Error: syntax error |
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