AIM:- Using flex tool generate scanner for a language

PROCEDURE:-

- Generate scanner using lex , which can identify following language –"D" ,and display appropriate messages on recognizing them

Rules of language "D"

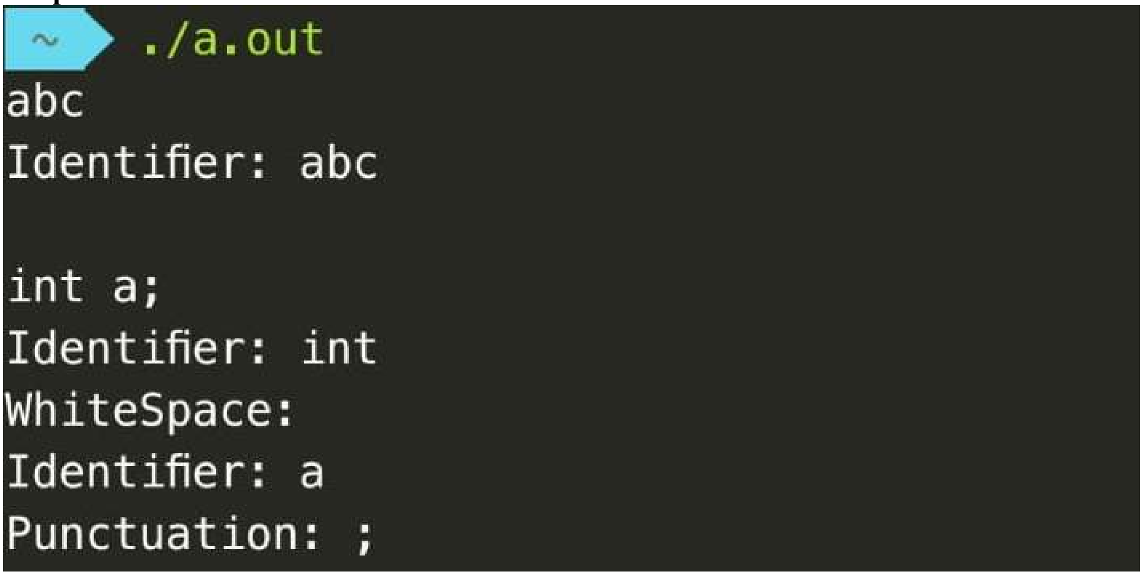
a) Keywords—if, for, while, do, exit, else, case, switch, until
b)Identifiers-starting with alphabet(big or small) and followed by one or more alphabets or numbers
c) Numbers- (1) float number • having one '.' and valid formats are • . Num or Num.Num or Num . 0 (2) integer number—>simple number, starting with digit followed by zero or more digits
d) Single line comments starting with ***
e) White space characthers are - blanks and tabs
f) punctuations are –[,],{,},(,) and comma
g) operators :=,<>,= = ,!= , <=, <=, (relational),+,-,*,% (mathametical)
h) string constant in ' ' Note-no enclosing quotes allowed in language

Program:-

Exp3.l

```
DIGIT [0-9]
ID [a-zA-Z][a-zA-Z0-9]*



%%
"**"({ID}[ \n\t]*{ID}[ \n\t]*)*"**"        {printf("Multiline comment: %s\n",yytext);}

{DIGIT}+        {printf("Integer: %s\n",yytext);}

{DIGIT}*"."{DIGIT}+ {printf("Float: %s\n",yytext);}

"if"|"for"|"while"|"do"|"exit"|"else"|"case"|"switch"|"until"           {printf("Keyword: %s\n",yytext);}

{ID}     {printf("Identifier: %s\n",yytext);}

"***"[a-zA-Z0-9_.,"]*   {printf("Single line comment: %s\n",yytext);}

[ \t]       {printf("WhiteSpace: %s\n",yytext);}

""[a-zA-Z0-9]*""          {printf("String constant: %s\n");}

"("|")"|"{"|"}"|";"|","|"["|"]"         {printf("Punctuation: %s\n",yytext);}

"="|"<>"|"=="|"!="|"<="|">="|"+"|"-"|"*"|"%"|"\""            {printf("Operator: %s\n",yytext);}

%%

int yywrap(){}
int main()
{
        yylex();
        return 0;
}
```

Output:



```
~ ./a.out
abc
Identifier: abc

int a;
Identifier: int
WhiteSpace:
Identifier: a
Punctuation: ;
```