

**6b) Write YACC program to recognize valid *identifier*, *operators* and *keywords* in the given text (C program) file.**

```
/*YACC Program*/
%{
#include <stdio.h>
#include <stdlib.h>
int id=0, dig=0, key=0, op=0;
%}
%token DIGIT ID KEY OP
%%
input:
DIGIT input { dig++; }
| ID input { id++; }
| KEY input { key++; }
| OP input {op++; }
| DIGIT { dig++; }
| ID { id++; }
| KEY { key++; }
| OP { op++; }
;
%%
#include <stdio.h>
extern int yylex();
//extern int yyparse();
extern FILE *yyin;
main()
{
    FILE *myfile = fopen("sample_input.c", "r");
    if (!myfile)
    {
        printf("can't open sample_input.c!");
        return -1;
    }
    yyin = myfile;
    do {
        yyparse();
    }while(!feof(yyin));
    printf("numbers = %d\n Keywords = %d\n Identifiers = %d\n"
    "operators = %d\n",dig, key,id, op);
}
void yyerror()
{
    printf("Parse error! Message: ");
    exit(-1);
}
```

```

/*...LEX PROGRAM...*/
%{
#include <stdio.h>
#include "y.tab.h"
extern yyval;
%}
%%
[\t] ;
[+|-|*|/|=|<|>] {printf("operator is %s\n",yytext);return OP;}
[0-9]+ {yyval = atoi(yytext); printf("numbers is %d\n",yyval);}
return DIGIT;
int|char|bool|float|void|for|do|while|if|else|return|void
{printf("keyword is %s\n",yytext);return KEY;}
[a-zA-Z0-9]+ {printf("identifier is %s\n",yytext);return ID;}
. ;
%%

```

**Instructions:**

1. Write Yacc program and compile it : yacc -d 6b.y
2. Write Lex program and compile it : lex 6b.l
3. Create a C file (*sample\_input.c*) with some C program statements in it.
4. Compile C files : gcc -o 6b y.tab.c lex.yy.c -lI
5. Execute : ./6b

NOTE: Kindly refer your manual for the output

In this program, the filename is directly specified as an argument to fopen().