

2)a.Program to recognize a valid arithmetic expression and to recognize the identifiers and operators present. Print them separately.

```
%{
int id=0,op=0,p=0;
}%
%%
[a-zA-Z][a-zA-Z0-9]* {id++;ECHO;printf("is the identifier\n");}
"+"|"-"|"*"|"/"|"%"|"=" {op++;ECHO;printf("is the operator\n");}
 "(" {p++;}
 ")" {p--;}
.
%%
main()
{
printf("Enter the arithmetic expression:");
yylex();
if(op+1==id && p==0)
printf("The given expression is valid.\n");
else
printf("The given expression is invalid.\n");
}
```

OUTPUT

```
[root@localhost ~]# cc lex.yy.c -ll
[root@localhost ~]# ./a.out
Enter the arithmetic expression:a+b
ais the identifier
+is the operator
bis the identifier
(press ctrl+d)
The given expression is valid.
```