

```
shubhanshubb@SB: ~  
shubhanshubb@SB:~$ lex 1a.l  
shubhanshubb@SB:~$ cc lex.yy.c -ll  
shubhanshubb@SB:~$ ./a.out  
Enter the expression :  
a+b  
  
identifier : a  
operator: +  
identifier : b
```

```
shubhanshubb@SB:~$ lex 1b.l  
shubhanshubb@SB:~$ cc y.tab.c lex.yy.c -ll  
/usr/share/bison+/bison.cc: In function 'yyparse':  
/usr/share/bison+/bison.cc:198:24: warning: implicit declaration of function 'yyerror'; did you mean 'yyerrok'? [-Wimplicit-function-declaration]  
/usr/share/bison+/bison.cc:667:4: note: in expansion of macro 'YY_parse_ERROR'  
/usr/share/bison+/bison.cc:180:22: warning: implicit declaration of function 'yylex' [-Wimplicit-function-declaration]  
/usr/share/bison+/bison.cc:465:25: note: in expansion of macro 'YY_parse_LEX'  
/usr/share/bison+/bison.cc:730:23: note: in expansion of macro 'YYLEX'  
6b.y: At top level:  
6b.y:23:1: warning: return type defaults to 'int' [-Wimplicit-int]  
23 | main()  
    | ^~~~~~  
6b.y:37:6: warning: conflicting types for 'yyerror'; have 'void()'   
37 | void yyerror() {  
    | ^~~~~~  
/usr/share/bison+/bison.cc:198:24: note: previous implicit declaration of 'yyerror' with type 'void()'   
/usr/share/bison+/bison.cc:667:4: note: in expansion of macro 'YY_parse_ERROR'  
1b.l:3:8: warning: type defaults to 'int' in declaration of 'yylval' [-Wimplicit-int]  
3 | extern yyval;  
  | ^~~~~~  
1b.l: In function 'yylex':  
1b.l:7:36: error: 'num' undeclared (first use in this function)  
7 | [0-9]+ {yylval=atoi(yytext);return num;}  
  | ^~~~~~  
1b.l:7:36: note: each undeclared identifier is reported only once for each function it appears in  
shubhanshubb@SB:~$ ./a.out  
Enter the expression :  
a*b  
  
identifier : a  
operator: *  
identifier : b
```

```
shubhanshubb@SB:~$ lex 2.l  
shubhanshubb@SB:~$ gcc y.tab.c lex.yy.c -ll  
/usr/share/bison+/bison.cc: In function 'yyparse':  
/usr/share/bison+/bison.cc:198:24: warning: implicit declaration of function 'yyerror'; did you mean 'yyerrok'? [-Wimplicit-function-declaration]  
/usr/share/bison+/bison.cc:667:4: note: in expansion of macro 'YY_parse_ERROR'  
/usr/share/bison+/bison.cc:180:22: warning: implicit declaration of function 'yylex' [-Wimplicit-function-declaration]  
/usr/share/bison+/bison.cc:465:25: note: in expansion of macro 'YY_parse_LEX'  
/usr/share/bison+/bison.cc:730:23: note: in expansion of macro 'YYLEX'  
6b.y: At top level:  
6b.y:23:1: warning: return type defaults to 'int' [-Wimplicit-int]  
23 | main()  
    | ^~~~~~  
6b.y:37:6: warning: conflicting types for 'yyerror'; have 'void()'   
37 | void yyerror() {  
    | ^~~~~~  
/usr/share/bison+/bison.cc:198:24: note: previous implicit declaration of 'yyerror' with type 'void()'   
/usr/share/bison+/bison.cc:667:4: note: in expansion of macro 'YY_parse_ERROR'  
2.l: In function 'yylex':  
2.l:5:9: error: 'A' undeclared (first use in this function)  
5 | a {return A;}  
  | ^~~~~~  
2.l:5:9: note: each undeclared identifier is reported only once for each function it appears in  
2.l:6:9: error: 'B' undeclared (first use in this function)  
6 | b {return B;}  
  | ^~~~~~  
shubhanshubb@SB:~$ ./a.out  
Enter the expression :  
a-b  
  
identifier : a  
identifier : b
```

```
shubhanshubb@SB:~$ gcc 3.c  
shubhanshubb@SB:~$ ./a.out  
first(A)={a} follow(A)={$}  
first(B)={b,@} follow(B)={a}  
  
a b $  
A A->aBa  
B B->@ B->bB  
enter the input string terminated with $ to parse:-abba  
  
Input string entered without end marker $shubhanshubb@SB:~$ ./a.out
```

```
shubhanshubb@SB:~$ gcc 4.c
4.c: In function 'main':
4.c:10:9: warning: implicit declaration of function 'gets'; did you mean 'fgets'
? [-Wimplicit-function-declaration]
   10 |         gets(a);
       |         ^~~~~
       |         fgets
/usr/bin/ld: /tmp/ccufUchX.o: in function 'main':
4.c:(.text+0x36): warning: the 'gets' function is dangerous and should not be used.
shubhanshubb@SB:~$ ./a.out
GRAMMAR is E->E+E
E->E*E
E->(E)
E->id
enter input string
aab
stack   input   action

$a      ab$     SHIFT->symbols
$aa     b$      SHIFT->symbols
shubhanshubb@SB:~$
```

```
shubhanshubb@SB:~$ gcc 5.c
5.c: In function 'main':
5.c:13:20: warning: implicit declaration of function 'strcmp' [-Wimplicit-function-declaration]
   13 |         if(strcmp(op,"+")==0)
       |                ^~~~~~
5.c:4:1: note: include '<string.h>' or provide a declaration of 'strcmp'
   3 | #include<ctype.h>
+++ |+#include <string.h>
   4 | char op[2],arg1[5],arg2[5],result[5];
shubhanshubb@SB:~$ ./a.out
shubhanshubb@SB:~$ cat input.txt
T1 -B = ?
T2 C + D
T3 T1 * T2
A T3 = ?
shubhanshubb@SB:~$ gcc 5.c
5.c: In function 'main':
5.c:13:20: warning: implicit declaration of function 'strcmp' [-Wimplicit-function-declaration]
   13 |         if(strcmp(op,"+")==0)
       |                ^~~~~~
5.c:4:1: note: include '<string.h>' or provide a declaration of 'strcmp'
   3 | #include<ctype.h>
+++ |+#include <string.h>
   4 | char op[2],arg1[5],arg2[5],result[5];
shubhanshubb@SB:~$ ./a.out
shubhanshubb@SB:~$ cat output.txt

MOV R0,-B
MOV T1,R0
MOV R0,C
ADD R0,D
MOV T2,R0
MOV R0,T1
MUL R0,T2
MOV T3,R0
MOV R0,T3
MOV A,R0
MOV R0,T3
shubhanshubb@SB:~$
```

```
shubhanshubb@SB:~$ lex 6a.l
shubhanshubb@SB:~$ gcc lex.yy.c -ll
shubhanshubb@SB:~$ ./a.out f1.c op.c
The number of commented lines are 0
shubhanshubb@SB:~$
```

```
shubhanshubb@SB:~$ lex 6b.l
shubhanshubb@SB:~$ gcc lex.yy.c -ll
6b.l:4:8: warning: type defaults to 'int' in declaration of 'yylval' [-Wimplicit-int]
   4 | extern yyval;
     |     ^~~~~~
/usr/bin/ld: /tmp/ccSBYAnV.o: warning: relocation against 'yyval' in read-only section '.text'
/usr/bin/ld: /tmp/ccSBYAnV.o: in function 'yylex':
lex.yy.c:(.text+0x30a): undefined reference to 'yyval'
/usr/bin/ld: lex.yy.c:(.text+0x310): undefined reference to 'yyval'
/usr/bin/ld: warning: creating DT_TEXTREL in a PIE
collect2: error: ld returned 1 exit status
shubhanshubb@SB:~$ yacc -d 6b.y
shubhanshubb@SB:~$ gcc lex.yy.c y.tab.c -ll
6b.l:4:8: warning: type defaults to 'int' in declaration of 'yyval' [-Wimplicit-int]
   4 | extern yyval;
     |     ^~~~~~
6b.y:23:1: warning: return type defaults to 'int' [-Wimplicit-int]
   23 | main()
     |     ^~~~~~
shubhanshubb@SB:~$ ./a.out
identifier is include
operator is <
identifier is stdio
identifier is h
operator is >
```

```

shubhanshubb@SB:~$ gcc 7.c
shubhanshubb@SB:~$ ./a.out
1.Round Robin
2.SRTF
2
Enter no of Processes : 3
Enter arrival time for Process P1 : 2
Enter burst time for Process P1 :1
Enter arrival time for Process P2 : 3
Enter burst time for Process P2 :3
Enter arrival time for Process P3 : 5
Enter burst time for Process P3 :2

Processt|Turnaround Time| Waiting Timen
P[1]    |      1      |      0
P[2]    |      3      |      0
P[3]    |      3      |      1

Average waiting time = 0.333333
Average Turnaround time = 2.333333shubhanshubb@SB:~$

```

```

shubhanshubb@SB:~$ gcc 8.c
shubhanshubb@SB:~$ ./a.out
Enter the no of processes : 3
Enter the no of resources : 1
Enter the Max Matrix for each process :
For process 1 : 2

For process 2 : 3

For process 3 : 1
Enter the allocation for each process :
For process 1 : 3

For process 2 : 2

For process 3 : 4
Enter the Available Resources : 2
Max matrix:
Allocation matrix:
2      3
3      2
1      4
Process 1 runs to completion!Max matrix:
Allocation matrix:
0      0
3      2
1      4
Process 2 runs to completion!Max matrix:
Allocation matrix:
0      0
0      0
1      4
Process 3 runs to completion!The system is in a safe state!!
Safe Sequence : < 1 2 3 >
shubhanshubb@SB:~$

```

```

shubhanshubb@SB:~$ gcc 9.c
shubhanshubb@SB:~$ ./a.out

Enter the no of empty frames: 3

Enter the length of the string: 2

Enter the string: aab

***** MENU *****
1:FIFO
2:LRU
3:EXIT
Enter your choice: 2

PAGE      FRAMES      FAULTS
a          a          Page-fault0
a          a          No page fault

Do u want to continue IF YES PRESS 1
IF NO PRESS 0 : 0
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```