

C:\Users\Administrator\Documents\symbol table.c - [Executing] - Embarcadero Dev-C++ 6.3

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 9.2.0 64-bit Release

(globals)

Project C left recursion.c | left factoring.c | symbol table.c | Untitled4

```
1 #include<stdio.h>
2 #include<stdlib.h>
3 #include<string.h>
4 int cnt=0;
5 struct symtab
6 {
7     char label[20];
8     int addr;
9 }
10 sy[50];
11 void insert();
12 int search(char *);
13 void display();
14 void modify();
15 int main()
16 {
17     int ch,val;
18     char lab[10];
19     do
20     {
21         printf("\n1.insert\n2.display\n3.search\n4.modify\n5.exit\n");
22         scanf("%d",&ch);
23         switch(ch)
24         {
25             case 1:
26                 insert();
27                 break;
28             case 2:
29                 display();
```

Compiler Resources Compile Log Debug Find Results Console Close

Abort Compilation

- Output Filename: C:\Users\Administrator\Documents\symbol table.exe

- Output Size: 324.900390625 KiB

- Compilation Time: 0.69s

Shorten compiler path

Line: 16 Col: 2 Sel: 0 Lines: 103 Length: 1587 Insert Done parsing it

1.insert  
2.display  
3.search  
4.modify  
5.exit  
1  
enter the labela  
enter the address100

1.insert  
2.display  
3.search  
4.modify  
5.exit  
2  
a 100

1.insert  
2.display  
3.search  
4.modify  
5.exit  
3  
enter the labela  
label is found

1.insert  
2.display  
3.search  
4.modify  
5.exit  
5

-----  
Process exited after 15.72 seconds with return value 0

C:\Users\Administrator\Documents\shift reduce parsing.c - [Executing] - Embarcadero Dev-C++ 6.3

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 9.2.0 64-bit Release

**(globals)**

Project C shift reduce parsing.c

```

25 void check()
26 {
27     int flag=0; temp2[0]=stack[st_ptr]; temp2[1]='\0';
28     if((!strcmpi(temp2,"a"))||(!strcmpi(temp2,"b")))
29     {
30         stack[st_ptr]='E'; if(!strcmpi(temp2,"a"))
31         printf("\n $%s\t\t%s\t\t->a",stack,ip_sym); else
32         printf("\n $%s\t\t%s\t\t->b",stack,ip_sym); flag=1;
33     }
34     if((!strcmpi(temp2,"+"))||(strcmpi(temp2,"*"))||(!strcmpi(temp2,"/")))
35     {
36         flag=1;
37     }
38     if((!strcmpi(stack,"E+E"))||(!strcmpi(stack,"E\E"))||(!strcmpi(stack,"E*E")))
39     {
40         strcpy(stack,"E"); st_ptr=0; if(!strcmpi(stack,"E+E"))
41         printf("\n $%s\t\t%s\t\t->E+E",stack,ip_sym); else
42         if(!strcmpi(stack,"E\E"))
43         printf("\n $%s\t\t%s\t\t->E\E",stack,ip_sym); else
44         if(!strcmpi(stack,"E*E"))
45         printf("\n $%s\t\t%s\t\t->E*E",stack,ip_sym); else
46         printf("\n $%s\t\t%s\t\t->E+E",stack,ip_sym); flag=1;
47     }
48     if(!strcmpi(stack,"E")&&ip_ptr==len)
49     {
50     }
51     printf("\n $%s\t\t%s\t\tACCEPT",stack,ip_sym); getch();
52     exit(0);
53 }

```

SHIFT REDUCE PARSE

GRAMMER

E->E+E  
E->E/E  
E->E\*E  
E->a/b

enter the input symbol: a+b

| stack | input symbol | action  |
|-------|--------------|---------|
| \$    | a+b\$        | --      |
| \$a   | +b\$         | shift a |
| \$E   | +b\$         | E->a    |
| \$E+  | b\$          | shift+  |
| \$E+b | \$           | shiftb  |
| \$E+E | \$           | E->b    |
| \$E   | \$           | E->E+E  |
| \$E   | \$           | ACCEPT  |

Compiler Resources Compile Log Debug Find Results Console Close

Abort Compilation

- Output Filename: C:\Users\Administrator\Documents\shift reduce pars

- Output Size: 325.1630859375 KiB

- Compilation Time: 2.27s

Shorten compiler path

Line: 59 Col: 2 Sel: 0 Lines: 59 Length: 1936 Insert Done parsing in

C:\Users\Administrator\Documents\cwl.c - [Executing] - Embarcadero Dev-C++ 6.3

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC

(globals)

Project C cwl.c

```
1 #include <stdio.h>
2 #include <ctype.h>
3 int main() {
4     FILE *fp;
5     char filename[100], ch;
6     int characters = 0, words = 0, lines = 0;
7     int in_word = 0;
8     printf("Enter the filename: ");
9     scanf("%s", filename);
10    fp = fopen(filename, "r");
11    if (fp == NULL) {
12        printf("Error: Could not open file %s\n", filename);
13        return 1;
14    }
15    while ((ch = fgetc(fp)) != EOF) {
16        characters++;
17        if (ch == '\n') {
18            lines++;
19        }
20        if (isspace(ch)) {
21            in_word = 0;
22        } else if (!in_word) {
23            in_word = 1;
24            words++;
25        }
26    }
27    fclose(fp);
28    printf("\nLexical Analysis Result:\n");
29    printf("Characters: %d\n", characters);
```

Enter the filename: mobile.l.txt  
Error: Could not open file mobile.l.txt

-----  
Process exited after 9.357 seconds with return value 1  
Press any key to continue . . . |

Compiler (1) Resources Compile Log Debug Find Results Console Close

Abort Compilation

- Output Filename: C:\Users\Administrator\Documents\cwl.e

- Output Size: 324.6357421875 KiB

- Compilation Time: 0.22s

Line: 7 Col: 21 Sel: 0 Lines: 33 Length: 852 Insert Done parsing in 0.016 seconds

C:\Users\Administrator\Documents\vowels and consonents.cpp - [Executing] - Embarcadero Dev-C++ 6.3

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 9.2.0 64-bit Release

(globals)

Project C cwl.c subexpression.c TAC.c [\*] vowels and consonents.cpp

```
1 #include <stdio.h>
2 #include <ctype.h>
3
4 int main() {
5     char sentence[1000];
6     int vowel_count = 0, consonant_count = 0;
7
8     printf("Enter a sentence: ");
9     fgets(sentence, sizeof(sentence), stdin);
10
11    for (int i = 0; sentence[i] != '\0'; i++) {
12        char ch = tolower(sentence[i]);
13
14        if (isalpha(ch)) {
15            if (ch == 'a' || ch == 'e' || ch == 'i' || ch == 'o' || ch == 'u') {
16                vowel_count++;
17            } else {
18                consonant_count++;
19            }
20        }
21    }
22
23    printf("Number of vowels : %d\n", vowel_count);
24    printf("Number of consonants: %d\n", consonant_count);
25
26    return 0;
27 }
```

C:\Users\Administrator

```
Enter a sentence: saveetha school of engineer
ing
Number of vowels : 12
Number of consonants: 15
-----
Process exited after 16.56 seconds with return value 0
Press any key to continue . . . |
```

Compiler (1) Resources Compile Log Debug Find Results Console Close

Abort Compilation

- Output Filename: C:\Users\Administrator\Documents\vowels and consonents.exe

- Output Size: 323.6533203125 KiB

- Compilation Time: 0.45s

Shorten compiler path

C:\Users\Administrator\Documents\operator precedence parsing.c - [Executing] - Embarcadero Dev-C++ 6.3

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 9.2.0 64-bit Re

(globals)

Project C shift reduce parsing.c operator precedence parsing.c

```

1 #include<stdio.h>
2 #include<string.h>
3 char *input;
4 int i=0;
5 char lasthandle[6],stack[50],handles[][][5]=("E","E*E","E+E","i","E^E");
6 int top=0,i;
7 char prec[9][9]={
8     '|>|>|<|<|<|<|<|<|>|>|,
9     '|>|>|<|<|<|<|<|<|>|>|,
10    '|>|>|>|>|<|<|<|<|>|>|,
11    '|>|>|>|>|<|<|<|<|>|>|,
12    '|>|>|>|>|<|<|<|<|>|>|,
13    '|>|>|>|>|<|<|<|<|>|>|,
14    '|>|>|<|<|<|<|<|<|>|>|,
15    '|>|>|<|<|<|<|<|<|>|>|,
16    '|<|<|<|<|<|<|<|<|>|>|,
17    '|<|<|<|<|<|<|<|<|>|>|,
18    int getindex(char c)
19    {
20        switch(c)
21        {
22            case '+':return 0;
23            case '-':return 1;
24            case '*':return 2;
25            case '/':return 3;
26            case '^':return 4;
27            case 'i':return 5;
28            case '(':return 6;
29            case ')':return 7;

```

Enter the string  
i\*(i+i)\*i

| STACK    | INPUT      | ACTION          |
|----------|------------|-----------------|
| \$i      | *(i+i)*i\$ | Shift           |
| \$E      | *(i+i)*i\$ | Reduced: E->i   |
| \$E*     | (i+i)*i\$  | Shift           |
| \$E*(    | i+i)*i\$   | Shift           |
| \$E*(i   | +i)*i\$    | Shift           |
| \$E*(E   | +i)*i\$    | Reduced: E->i   |
| \$E*(E+  | i)*i\$     | Shift           |
| \$E*(E+i | )*i\$      | Shift           |
| \$E*(E+E | )*i\$      | Reduced: E->i   |
| \$E*(E   | )*i\$      | Reduced: E->E+E |
| \$E*(E)  | *i\$       | Shift           |
| \$E*E    | *i\$       | Reduced: E->)E  |
| \$E      | *i\$       | Reduced: E->E*E |
| \$E*     | i\$        | Shift           |
| \$E*i    | \$         | Shift           |
| \$E*E    | \$         | Reduced: E->i   |
| \$E      | \$         | Reduced: E->E*E |
| \$E\$    | Shift      |                 |
| \$E\$    | Shift      |                 |
|          |            | Accepted;       |

Process exited after 24.37 seconds with return value 10  
Press any key to continue . . .

Compiler (4) Resources Compile Log Debug Find Results Console Close

| Line   | Col | File  | Message   |
|--|-----|---|---|
| C:\Users\Administrator\Documents\operator... In function 'main': |     |   |   |
| 82   | 14  | C:\Users\Administrator\Documents\operator prec... | [Warning] implicit declaration of function 'malloc' [-Wimplicit-function-declaration] |
| 82   | 14  | C:\Users\Administrator\Documents\operator prec... | [Warning] incompatible implicit declaration of built-in function 'malloc'             |

Line: 2 Col: 19 Sel: 0 Lines: 113 Length: 2382 Insert Done parsing in 0.015 seconds

C:\Users\Administrator\Documents\left recursion.c - [Executing] - Embarcadero Dev-C++ 6.3

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 9.2.0 64-bit Release

(globals)

Project C left recursion.c

```

1 #include<stdio.h>
2 #include<string.h>
3 #define SIZE 10
4 int main () {
5     char non_terminal;
6     char beta,alpha;
7     int num;
8     char production[10][SIZE];
9     int index=3;
10    printf("Enter Number of Production : ");
11    scanf("%d",&num);
12    printf("Enter the grammar as E->E-A :\n");
13    for(int i=0;i<num;i++){
14        scanf("%s",production[i]);
15    }
16    for(int i=0;i<num;i++){
17        printf("\nGRAMMAR : : %s",production[i]);
18        non_terminal=production[i][0];
19        if(non_terminal==production[i][index]) {
20            alpha=production[i][index+1];
21            printf(" is left recursive.\n");
22            while(production[i][index]!=0 && production[i][index]!='|')
23                index++;
24            if(production[i][index]!=0) {
25                beta=production[i][index+1];
26                printf("Grammar without left recursion:\n");
27                printf("%c->%c%c\\",non_terminal,beta,non_terminal);
28                printf("\\%c\\->%c%c\\|E\\n",non_terminal,alpha,non_terminal);
29            }
}

```

Compiler Resources Compile Log Debug Find Results Console Close

- Output Filename: C:\Users\Administrator\Documents\left recursion.exe
- Output Size: 323.453125 KiB
- Compilation Time: 0.64s

Line: 32 Col: 16 Sel: 0 Lines: 38 Length: 1427 Insert Done parsing in 0.047 s

Enter Number of Production : 2  
Enter the grammar as E->E-A :  
S->(L)|a  
L->L,S|S

GRAMMAR : : S->(L)|a is not left recursive.

GRAMMAR : : L->L,S|S is left recursive.  
Grammar without left recursion:  
L->SL'  
L'->,L'|E

-----  
Process exited after 50.64 seconds with return value 0  
Press any key to continue . . . |

C:\Users\Administrator\Documents\all languages.c - [Executing] - Embarcadero Dev-C++ 6.3

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 9.2.0 64-bit Release

(globals)

Project C left recursion.c | left factoring.c | symbol table.c | recursive decent parser.c

```
1 #include <stdio.h>
2 #include <string.h>
3 int isValid(char str[]) {
4     int i, aCount = 0, bCount = 0;
5     int len = strlen(str);
6     for (i = 0; i < len; i++) {
7         if (str[i] == 'a')
8             aCount++;
9         else
10            break;
11    }
12    for (; i < len; i++) {
13        if (str[i] == 'b')
14            bCount++;
15        else
16            return 0;
17    }
18    return aCount == bCount;
19 }
20 int main() {
21     char input[100];
22     printf("Enter a string: ");
23     scanf("%s", input);
24     if (isValid(input))
25         printf("The string is valid as per the grammar.\n");
26     else
27         printf("The string is NOT valid as per the grammar.\n");
28     return 0;
29 }
```

Enter a string: aba  
The string is NOT valid as per the grammar.

-----  
Process exited after 2.819 seconds with return value 0  
Press any key to continue . . .

Compiler (15) Resources Compile Log Debug Find Results Console Close

Abort Compilation

- Output Filename: C:\Users\Administrator\Documents\all languages.c  
- Output Size: 322.970703125 KiB  
- Compilation Time: 0.64s

Shorten compiler path

Line: 2 Col: 20 Sel: 0 Lines: 29 Length: 687 Insert Done parsing in 0.015 seconds

C:\Users\Administrator\Documents\TAC.c - [Executing] - Embarcadero Dev-C++ 6.3

File Edit Search View Project Execute Tools AStyle Window Help

(globals)

Project C cwl.c x subexpression.c x TAC.c x

```
1 #include <stdio.h>
2 #include <string.h>
3 #include <ctype.h>
4 char expr[100];
5 int tempVar = 1;
6 void newTemp(char temp[]) {
7     sprintf(temp, "t%d", tempVar++);
8 }
9 int precedence(char op) {
10    if (op == '*' || op == '/') return 2;
11    if (op == '+' || op == '-') return 1;
12    return 0;
13 }
14 char operandStack[100][20];
15 char operatorStack[100];
16 int topOperand = -1, topOperator = -1;
17 void pushOperand(char *val) {
18     strcpy(operandStack[++topOperand], val);
19 }
20 void popOperand(char *val) {
21     strcpy(val, operandStack[topOperand--]);
22 }
23 void pushOperator(char op) {
24     operatorStack[++topOperator] = op;
25 }
26 char popOperator() {
27     return operatorStack[topOperator--];
28 }
29 char peekOperator() {
```

Enter arithmetic expression (e.g., a+b\*c-d): a\*b-c+d  
t1 = a \* b  
t2 = t1 - c  
t3 = t2 + d  
Result stored in: t3

-----  
Process exited after 7.854 seconds with return value 0  
Press any key to continue . . . |

Compiler (1) Resources Compile Log Debug Find Results Console

Abort Compilation

- Output Filename: C:\Users\Administrator\I  
- Output Size: 325.1640625 KiB  
- Compilation Time: 0.23s

Shorten compiler path

Line: 28 Col: 2 Sel: 0 Lines: 76 Length: 1846 Insert Done parsing in 0.031 seconds

C:\Users\Administrator\Documents\left factoring.c - [Executing] - Embarcadero Dev-C++ 6.3

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 9.2.0 64-bit Release

(globals)

Project C left recursion.c left factoring.c

```
1 #include<stdio.h>
2 #include<string.h>
3 int main()
4 {
5     char gram[20],part1[20],part2[20],modifiedGram[20],newGram[20],tempGram[20];
6     int i,j=0,k=0,l=0,pos;
7     printf("Enter Production : S->");
8     gets(gram);
9     for(i=0;gram[i]!='|';i++,j++)
10    {
11        part1[j]=gram[i];
12        part1[j]]='\0';
13        for(j++;i=0;gram[j]!='\0';j++,i++)
14            part2[i]=gram[j];
15        part2[i]='\0';
16        for(i=0;i<strlen(part1)||i<strlen(part2);i++)
17        {
18            if(part1[i]==part2[i])
19            {
20                modifiedGram[k]=part1[i];
21                k++;
22                pos=i+1;
23            }
24            for(i=pos,j=0;part1[i]!='\0';i++,j++)
25                newGram[j]=part1[i];
26        }
27        newGram[j++]='|';
28        for(i=pos;part2[i]!='\0';i++,j++)
29            newGram[j]=part2[i];
}
```

Enter Production : S->iEtS|iEtSeS|a

S->iEtSX  
X->|eS|a

-----

Process exited after 116.6 seconds with return value 0  
Press any key to continue . . .

Compiler Resources Find Results Console Close

Abort Compilation

- Output Filename: C:\Users\Administrator\Documents\left f

Line: 37 Col: 1 Sel: 0 Lines: 37 Length: 1109 Insert

C:\Users\Administrator\Documents\recursive decent parsing.c - [Executing] - Embarcadero Dev-C++ 6.3

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 9.2.0 64-bit Release

(globals)

Project C left recursion.c | left factoring.c | symbol table.c | recursive decent parsing.c

```

1 #include<stdio.h>
2 #include<conio.h>
3 #include<string.h>
4 char input[100];
5 int i, l;
6 void main()
7 {
8     printf("\nRecursive descent parsing for the following grammar\n");
9     printf("\nE->TE '\nE'->+TE' /@ \nT->FT '\nT'->*FT' /@ \nF->(E)/ID\n");
10    printf("\nEnter the string to be checked:");
11    gets(input);
12    if(E())
13    {
14        if(input[i+1]=='\0')
15            printf("\nString is accepted");
16        else
17            printf("\nString is not accepted");
18    }
19    else
20        printf("\nString not accepted");
21    getch();
22 }
23 E()
24 {
25     if(T())
26     {
27         if(EP())
28             return(1);
29     }

```

C:\Users\Administrator\Documents\Recursive descent parsing for the following grammar

E->TE'  
E'->+TE' /@  
T->FT'  
T'->\*FT' /@  
F->(E)/ID

Enter the string to be checked:(a+b)\*c

String is accepted

Process exited after 19.08 seconds with return value 13  
Press any key to continue . . . |

Compiler (16) Resources Compile Log Debug Find Results Console Close

| Line | Col | File  | Message                                    |
|------|-----|---|--|
|      |     | C:\Users\Administrator\Documents\recursiv...      | In function 'main':                        |
| 12   | 4   | C:\Users\Administrator\Documents\recursive dec... | [Warning] implicit declaration of function |
|      |     | C:\Users\Administrator\Documents\recursiv...      | At top level:                              |

Line: 11 Col: 1 Sel: 0 Lines: 108 Length: 1146 Insert Done

C:\Users\Administrator\Documents\subexpression.c - [Executing] - Embarcadero Dev-C++ 6.3

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 9.2.0 64-bit Release

(globals)

Project C cwl.c x subexpression.c x

```

1 #include <stdio.h>
2 #include <string.h>
3 #define MAX 100
4 typedef struct {
5     char result[10];
6     char arg1[10];
7     char op[3];
8     char arg2[10];
9 } Expression;
10 int is_common(Expression e1, Expression e2) {
11     return (strcmp(e1.arg1, e2.arg1) == 0 &&
12             strcmp(e1.arg2, e2.arg2) == 0 &&
13             strcmp(e1.op, e2.op) == 0);
14 }
15 int main() {
16     Expression expr[MAX], optimized[MAX];
17     int n, i, j, k = 0, found;
18     printf("Enter the number of expressions: ");
19     scanf("%d", &n);
20     printf("Enter expressions in the form: result = arg1 op arg2\n");
21     for (i = 0; i < n; i++) {
22         printf("Expression %d: ", i + 1);
23         scanf("%s = %s %s", expr[i].result, expr[i].arg1, expr[i].op, expr[i].arg2);
24     }
25     for (i = 0; i < n; i++) {
26         found = 0;
27         for (j = 0; j < k; j++) {
28             if (is_common(expr[i], optimized[j])) {
29                 printf("Optimized: %s = %s\n", expr[i].result, optimized[j].result);

```

C:\Users\Administrator x + - □ ×

Enter the number of expressions: 3  
Enter expressions in the form: result = arg1 op arg2  
Expression 1: t1=a+b  
t2=a+b  
Expression 2: t3=t1  
Expression 3: t3=t1+c  
Kept : t1=a+b = eC■ ■  
Kept : t2=a+b =  
Kept : t3=t1 =

Final Optimized Code:  
t1=a+b = eC■ ■  
t2=a+b =  
t3=t1 =

-----  
Process exited after 55.01 seconds with return value 0  
Press any key to continue . . . |

Compiler (1) Resources Compile Log Debug Find Results Console Close

Abort Compilation

- Output Filename: C:\Users\Administrator\Documents\subexpression.exe  
- Output Size: 324.1513671875 KiB  
- Compilation Time: 0.22s

Line: 24 Col: 6 Sel: 0 Lines: 48 Length: 1462 Insert Done parsing in 0.046 seconds

C:\Users\Administrator\Documents\identifier/operators.c - [Executing] - Embarcadero Dev-C++ 6.3

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 9.2.0 64-bit Release

(globals)

Project C identifier/operators.c

```
1 #include<stdio.h>
2 #include<ctype.h>
3 #include<string.h>
4 int main()
5 {
6     int i,ic=0,m,cc=0,oc=0,j;
7     char b[30],operators[30],identifiers[30],constants[30];
8     printf("enter the string : ");
9     scanf("%[^\\n]",&b);
10    for(i=0;i<strlen(b);i++)
11    {
12        if(isspace(b[i]))
13        {
14            continue;
15        }
16        else if(isalpha(b[i]))
17        {
18            identifiers[ic] =b[i];
19            ic++;
20        }
21        else if(isdigit(b[i]))
22        {
23            m=(b[i]-'0');
24            i++;
25            while(isdigit(b[i]))
26            {
27                m=m*10 + (b[i]-'0');
28                i++;
29            }
        }
    }
}
```

enter the string : a+7\*b/4  
identifiers : a b  
constants : 7 4  
operators : + \*

Process exited after 14.37 seconds with return value 0  
Press any key to continue . . .

Compiler Resources Compile Log Debug Find Results Console Close

Abort Compilation

- Output Filename: C:\Users\Administrator\Documents\id

Line: 74 Col: 1 Sel: 0 Lines: 74 Length: 1389 Insert Done parsing in 0.609 seconds

C:\Users\Administrator\Documents\backend of the compiler.c - [Executing] - Embarcadero Dev-C++ 6.3

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 9.2.0 64-bit Release

Project C shift reduce parsing.c operator precedence parsing.c backend of the compiler.c

```
1 #include<stdio.h>
2 #include<conio.h>
3 #include<string.h>
4 int main()
5 {
6     int n,i,j;
7     char a[50][50];
8     printf("enter the no: intermediate code:");
9     scanf("%d",&n);
10    for(i=0;i<n;i++)
11    {
12        printf("enter the 3 address code:%d:",i+1);
13        for(j=0;j<6;j++)
14        {
15            scanf("%c",&a[i][j]);
16        }
17    }
18    printf("the generated code is:");
19    for(i=0;i<n;i++)
20    {
21        printf("\n mov %c,R%d",a[i][3],i);
22        if(a[i][4]=='-')
23        {
24            printf("\n sub %c,R%d",a[i][5],i);
25        }
26        if(a[i][4]=='+')
27        {
28            printf("\n add %c,R%d",a[i][5],i);
29        }
    }
```

enter the no: intermediate code:2  
enter the 3 address code:1:a+b+c  
enter the 3 address code:2:d=n\*d  
the generated code is:  
mov b,R0  
add c,R0  
mov R0,a  
  
mov n,R1  
mul d,R1  
mov R1,d  
  
-----  
Process exited after 30.9 seconds with return value 0  
Press any key to continue . . .

Compiler (3) Resources Compile Log Debug Find Results Console Close

Abort Compilation

Output Filename: C:\Users\Administrator\Document

Output Size: 323.9814453125 KiB

Compilation Time: 0.59s

Line: 16 Col: 10 Sel: 0 Lines: 42 Length: 743

C:\Users\Administrator\Documents\commentbegin.c - [Executing] - Embarcadero Dev-C++ 6.3

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 9.2.0 64-bit Release

(globals)

Project C identifier/operators.c x commentbegin.c x

```
1 #include <stdio.h>
2 #include <string.h>
3 #include <stdbool.h>
4 bool isSingleLineComment(const char *line) {
5     return (strncmp(line, "//", 2) == 0);
6 }
7 bool isMultiLineComment(const char *line) {
8     int len = strlen(line);
9     return (len >= 4 && strstr(line, "/*") != NULL && strstr(line, "*/") != NULL);
10 }
11 int main() {
12     char line[1000];
13     printf("Enter a line: ");
14     fgets(line, sizeof(line), stdin);
15     line[strcspn(line, "\n")] = '\0';
16     if (isSingleLineComment(line)) {
17         printf("This is a single-line comment.\n");
18     }
19     else if (isMultiLineComment(line)) {
20         printf("This is a multi-line comment.\n");
21     }
22     else {
23         printf("This is not a comment.\n");
24     }
25     return 0;
26 }
```

Enter a line: //comment line  
This is a single-line comment.

-----  
Process exited after 41.97 seconds with return value  
0  
Press any key to continue . . .

Compiler Resources Compile Log Debug Find Results Console Close

Abort Compilation

- Output Filename: C:\Users\Administrator\Documents\commentbegin.exe  
- Output Size: 323.069140625 KiB  
- Compilation Time: 0.66s

Shorten compiler path

Line: 26 Col: 2 Sel: 0 Lines: 26 Length: 740 Insert Done parsing in 0.062 seconds

```
Command Prompt - a      X + v      - o x
Microsoft Windows [Version 10.0.26100.4202]
(c) Microsoft Corporation. All rights reserved.

C:\Users\kalid>set path=C:\Program Files (x86)\GnuWin32\bin
C:\Users\kalid>flex mobile.l.txt
C:\Users\kalid>set path=C:\MinGW\bin
C:\Users\kalid>gcc lex.yy.c
C:\Users\kalid>a
enter the mobile number:7200396443
mobile number valid
-----
mobile number invalid
979076395
mobile number invalid
```

bin

Command Prompt

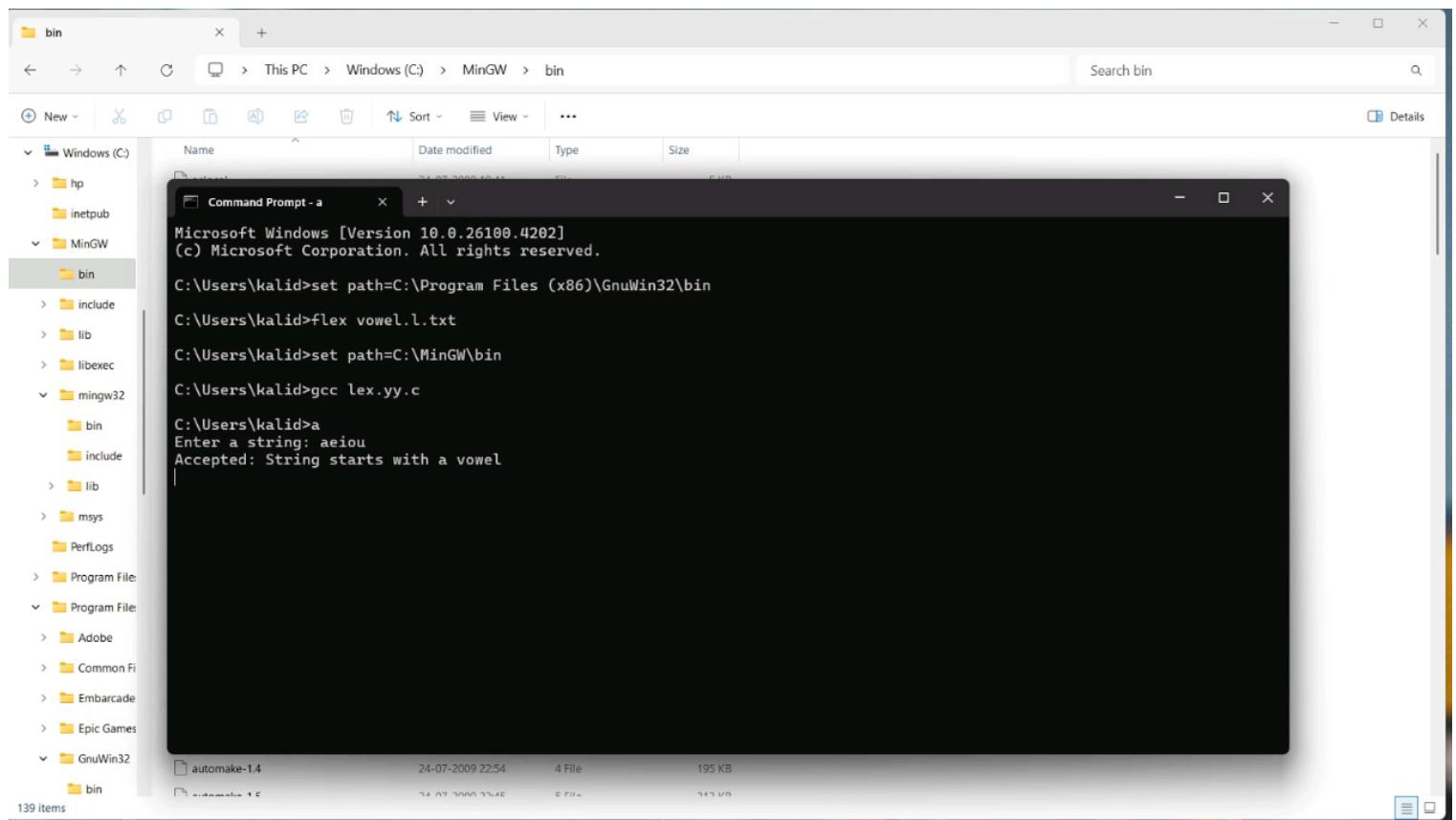
```
Microsoft Windows [Version 10.0.26100.4202]
(C) Microsoft Corporation. All rights reserved.

C:\Users\kalid>set path=C:\Program Files (x86)\GnuWin32\bin
C:\Users\kalid>flex identifier.l.txt
C:\Users\kalid>set path=C:\MinGW\bin
C:\Users\kalid>gcc lex.yy.c
C:\Users\kalid>
```

Program File:

| autoheader-2.68 | 05-09-2011 06:08 | 68 File | 9 KB   |
|-----------------|------------------|---------|--------|
| autom4te        | 04-09-2011 23:19 | File    | 5 KB   |
| autom4te-2.68   | 05-09-2011 06:08 | 68 File | 32 KB  |
| automake        | 24-07-2009 19:41 | File    | 5 KB   |
| automake-1.4    | 24-07-2009 22:54 | 4 File  | 195 KB |
| automake-1.4    | 24-07-2009 22:54 | File    | 195 KB |

139 items



The image shows a Windows desktop environment with two windows open. On the left is a 'Command Prompt' window titled 'Command Prompt'. It contains the following text:

```
Microsoft Windows [Version 10.0.26100.4202]
(c) Microsoft Corporation. All rights reserved.

C:\Users\kalid>set path=C:\Program Files (x86)\GnuWin32\bin
C:\Users\kalid>flex addline.l.txt
C:\Users\kalid>set path=C:\MinGW\bin
C:\Users\kalid>gcc lex.yy.c
C:\Users\kalid>a
C:\Users\kalid>a
C:\Users\kalid>a
C:\Users\kalid>
```

On the right is a code editor window titled 'identifier.l.txt' and 'outnew.txt'. The 'identifier.l.txt' tab is active. It contains the following C code:

```
1:#include <stdio.h>
2:int main()
3:int a,b;
4:printf("enter a:,enter b:")
5:c=a+b;
6:printf("the sum of %d=%d",c)
```

The status bar at the bottom of the code editor shows:

Ln 1, Col 1 119 characters Plain text 100% Windows (CRLF) UTF-8

```
□ Command Prompt - a      X  +  v      -  o  ×
Microsoft Windows [Version 10.0.26100.4202]
(c) Microsoft Corporation. All rights reserved.

C:\Users\kalid>set path=C:\Program Files (x86)\GnuWin32\bin
C:\Users\kalid>flex url.l.txt
C:\Users\kalid>set path=C:\MinGW\bin
C:\Users\kalid>gcc lex.yy.c
C:\Users\kalid>a
Enter URL: https://hianime.to/home
URL Valid

https://hianime.to/home
URL Invalid
```

```
Command Prompt - a      +  Microsoft Windows [Version 10.0.26100.4202]
(c) Microsoft Corporation. All rights reserved.

C:\Users\kalid>set path=C:\Program Files (x86)\GnuWin32\bin
C:\Users\kalid>flex dob.l.txt
flex: can't open dob.l.txt
C:\Users\kalid>flex dob.l.txt
C:\Users\kalid>set path=C:\MinGW\bin
C:\Users\kalid>gcc lex.yy.c
C:\Users\kalid>a
25/05/2007
valid
```

```
Command Prompt
Microsoft Windows [Version 10.0.26100.4202]
(c) Microsoft Corporation. All rights reserved.

C:\Users\kalid>set path=C:\Program Files (x86)\GnuWin32\bin
C:\Users\kalid>flex character.l.txt
C:\Users\kalid>set path=C:\MinGW\bin
C:\Users\kalid>gcc lex.yy.c
C:\Users\kalid>a
i want coffee and tea plse
^Z
Characters: 27
Words: 2
Lines: 1
C:\Users\kalid>
```



36°C Partly sunny      Search      Weather icon      File Explorer icon      Task View icon      Edge icon      Google Chrome icon      Word icon      Excel icon      Power icon      ENG IN      13:22      02-08-2025

```
Command Prompt - a
Microsoft Windows [Version 10.0.26100.4202]
(c) Microsoft Corporation. All rights reserved.

C:\Users\kalid>set path=C:\Program Files (x86)\GnuWin32\bin
C:\Users\kalid>flex keyword.l.txt
C:\Users\kalid>set path=C:\MinGW\bin
C:\Users\kalid>gcc lex.yy.c
C:\Users\kalid>a
Enter code (end with Ctrl+D):
int x = 10;

int is a KEYWORD
x is an IDENTIFIERfor(i=0;i<5;i++)

for is a KEYWORD
i is an IDENTIFIER
i is an IDENTIFIER
i is an IDENTIFIER{
    while(x>0) x--;
}

while is a KEYWORD
x is an IDENTIFIER
x is an IDENTIFIER}

^Z
```

```
Command Prompt - a      +  Microsoft Windows [Version 10.0.26100.4202]
(c) Microsoft Corporation. All rights reserved.

C:\Users\kalid>set path=C:\Program Files (x86)\GnuWin32\bin
C:\Users\kalid>flex digit.l.txt
C:\Users\kalid>set path=C:\MinGW\bin
C:\Users\kalid>gcc lex.yy.c
C:\Users\kalid>a
Enter input: 5
5 is a DIGIT
```

```
Command Prompt - a      X + V      - O X
Microsoft Windows [Version 10.0.26100.4202]
(c) Microsoft Corporation. All rights reserved.

C:\Users\kalid>set path=C:\Program Files (x86)\GnuWin32\bin
C:\Users\kalid>flex substute.l.txt
C:\Users\kalid>set path=C:\MinGW\bin
C:\Users\kalid>gcc lex.yy.c
C:\Users\kalid>a
Enter the string: ab1x
ABX
```

The screenshot shows a Windows desktop environment. In the foreground, there is a code editor window titled "maths.l.txt". The file contains the following Yacc grammar:

```
%{  
#include<stdio.h>  
%}  
%%  
"=" "+" "-" "/" "*" { printf("valid");}  
.+ {printf("invalid");}  
%%  
int yywrap(){  
int main()  
{  
printf("enter the input:");  
yylex();  
return 0;  
}
```

Below the code editor is a "Command Prompt - a" window. The command history shows:

```
C:\Users\Administrator>set path=C:\GnuWin32\bin  
C:\Users\Administrator>flex maths.l.txt  
C:\Users\Administrator>set path=C:\MinGW\bin  
C:\Users\Administrator>gcc lex.yy.c  
C:\Users\Administrator>a  
enter the input:2+3-4  
invalid  
=-  
invalid  
=  
valid  
|
```

The image shows a Windows desktop environment. On the left is a code editor window titled 'operator.l.txt' containing a C-like grammar for arithmetic operators. On the right is a 'Command Prompt - a' window showing the output of running the flex lexer and then gcc on the generated lex.yy.c file.

**Code Editor Content (operator.l.txt):**

```
%{  
#include <stdio.h>  
%}  
  
%%  
"+"   { printf("PLUS operator detected: %s\n", yytext); }  
"-"   { printf("MINUS operator detected: %s\n", yytext); }  
"*"   { printf("MULTIPLICATION operator detected: %s\n", yytext); }  
"/"   { printf("DIVISION operator detected: %s\n", yytext); }  
[ \t\n] ; // ignore whitespace  
.  { printf("Not a valid arithmetic operator: %s\n", yytext); }  
  
%%  
  
int main() {  
    yylex();  
    return 0;  
}  
  
int yywrap() {  
    return 1;  
}
```

**Command Prompt Output:**

```
Microsoft Windows [Version 10.0.26100.4652]  
(c) Microsoft Corporation. All rights reserved.  
C:\Users\Administrator>set path=C:\GnuWin32\bin  
C:\Users\Administrator>flex operator.l.txt  
C:\Users\Administrator>set path=C:\MinGW\bin  
C:\Users\Administrator>gcc lex.yy.c  
C:\Users\Administrator>a  
++  
PLUS operator detected: +  
MULTIPLICATION operator detected: *
```

The image shows a Windows desktop environment with two open windows. On the left is a code editor window titled "mobile.l.txt" containing a lexical analyzer definition for Flex. The code defines a regular expression for email addresses and includes a main function that prints "email valid" for a valid input and "email invalid" for an invalid one. On the right is a Command Prompt window titled "Command Prompt - a" showing the execution of the Flex compiler (flex), the compilation of the lex file (gcc lex.yy.c), and the execution of the generated program (a). The user enters an email address, and the program outputs whether it is valid or invalid.

```
%{  
%}  
  
[a-zA-Z0-9_]+@[a-zA-Z]+\.[a-zA-Z]+\.[a-zA-Z] {printf("\n email valid\n");}  
.+ {printf("\n email invalid\n");}  
  
%%  
int yywrap(void){}  
  
int main()  
{  
printf("\n enter the email:");  
yylex();  
printf("\n");  
return 0;  
}  
  
Microsoft Windows [Version 10.0.26100.4652]  
(c) Microsoft Corporation. All rights reserved.  
C:\Users\Administrator>set path=C:\GnuWin32\bin  
C:\Users\Administrator>flex email.l.txt  
C:\Users\Administrator>path=C:\MinGW\bin  
C:\Users\Administrator>gcc lex.yy.c  
C:\Users\Administrator>a  
enter the email:jyoshnavidadi@gmail.com  
email valid  
jyoshnavi@gmail.com  
email valid  
jyoshnavi  
email invalid
```

The image shows a Windows desktop environment. On the left is a code editor window titled "svowel.l.txt" containing a Lexical Analyzer (flex) source code. On the right is a Command Prompt window titled "Command Prompt - a" showing the execution of the flex compiler and the resulting executable's output.

**Code Editor Content (svowel.l.txt):**

```
%{  
#include <stdio.h>  
%}  
  
%%  
^[aeiouAEIOU][a-zA-Z0-9]* { printf("Accepted: %s\n", yytext); }  
.* { printf("Rejected: %s\n", yytext); }  
  
%%  
  
int main() {  
    yylex();  
    return 0;  
}  
  
int yywrap() {  
    return 1;  
}
```

**Command Prompt Output:**

```
Microsoft Windows [Version 10.0.26100.4652]  
(c) Microsoft Corporation. All rights reserved.  
C:\Users\Administrator>set path=C:\GnuWin32\bin  
C:\Users\Administrator>flex svowel.l.txt  
C:\Users\Administrator>set path=C:\MinGW\bin  
C:\Users\Administrator>gcc lex.yy.c  
C:\Users\Administrator>a  
animal  
Accepted: animal  
  
zebra  
Rejected: zebra
```

A screenshot of a Windows desktop environment. In the foreground, there is a code editor window titled "macro" which contains C-like code. The code defines two variables, `nmacro` and `nheader`, and includes a macro definition and a header inclusion. It also contains a `yywrap` function and a `main` function that prints the values of `nmacro` and `nheader`. In the background, a Command Prompt window titled "Command Prompt - a" is open, showing the execution of the code. The command prompt shows the user setting the path to C:\GnuWin32\bin, running flex on "macro.l.txt", setting the path to C:\MinGW\bin, and then gcc on "lex.yy.c". The output of the program is displayed as 4 for the number of macros and 5 for the number of header files.

```
%{  
int nmacro, nheader;  
%}  
%%  
^#define { nmacro++; }  
^#include { nheader++; }  
%%  
int yywrap(void) {  
    return 1;  
}  
int main() {  
    yylex();  
    printf("Number of macros defined = %d\n", nmacro);  
    printf("Number of header files included = %d\n", nheader);  
}
```

```
Microsoft Windows [Version 10.0.26100.4652]  
(c) Microsoft Corporation. All rights reserved.  
C:\Users\Administrator>set path=C:\GnuWin32\bin  
C:\Users\Administrator>flex macro.l.txt  
C:\Users\Administrator>set path=C:\MinGW\bin  
C:\Users\Administrator>gcc lex.yy.c  
C:\Users\Administrator>a  
4  
4  
5  
5
```

The screenshot shows a Windows desktop environment. In the foreground, there is a code editor window titled "kori.l." containing Yacc grammar rules. Below it is a command prompt window titled "Command Prompt - a".

**Code Editor Content (kori.l):**

```
%{  
#include<stdio.h>  
%}  
  
%%  
if|else|while|int|switch|for|char { printf("its a keyword");}  
[a-zA-Z0-9]+ { printf("\n%s is IDENTIFIER", yytext);}  
  
%%  
int yywrap( ){  
int main()  
{  
    while( yylex());  
}
```

**Command Prompt Output:**

```
Microsoft Windows [Version 10.0.26100.4652]  
(c) Microsoft Corporation. All rights reserved.  
C:\Users\Administrator>set path=C:\GnuWin32\bin  
C:\Users\Administrator>flex kori.l.txt  
C:\Users\Administrator>set path=C:\MinGW\bin  
C:\Users\Administrator>gcc lex.yy.c  
C:\Users\Administrator>a  
while  
its a keyword  
hello  
  
hello is IDENTIFIER  
|
```

The screenshot shows a Windows desktop environment. In the foreground, there is a code editor window titled "abc.l." containing a YACC grammar file. The file includes standard declarations like `%{` and `%}` at the top, followed by a rule for lowercase letters, and a main function that prints a prompt and calls yyflex(). Below the code editor is a Command Prompt window titled "Command Prompt - a". The command prompt session shows the user setting the system path to include C:\GnuWin32\bin, running the flex tool on the grammar file, setting the path again to include C:\MinGW\bin, and then compiling the generated lex.yy.c file with gcc. Finally, the user enters the string "abcXYZ" at the prompt, which is then displayed back to them.

```
%{  
}  
%%  
[a-z] {printf("%c",yytext[0]-32);}  
. {}  
%%  
int yywrap(void){}  
int main()  
{  
printf("\nEnter the string : ");  
yyflex();  
}  
  
Microsoft Windows [Version 10.0.26100.4652]  
(c) Microsoft Corporation. All rights reserved.  
C:\Users\Administrator>set path=C:\GnuWin32\bin  
C:\Users\Administrator>flex abc.l.txt  
C:\Users\Administrator>set path=C:\MinGW\bin  
C:\Users\Administrator>gcc lex.yy.c  
C:\Users\Administrator>a  
enter the string : abc  
ABC  
xyz  
XYZ
```

```

%{
#include <stdio.h>
#include <string.h>

char old_word[50], new_word[50];
%}

[a-zA-Z]+ {
    if (strcmp(yytext, old_word) == 0)
        printf("%s", new_word);
    else
        printf("%s", yytext);
}

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

. { printf("%s", yytext); }

%%

int main() {
    printf("Enter the word to replace: ");
    scanf("%s", old_word);

    printf("Enter the replacement word: ");
    scanf("%s", new_word);

    printf("Enter text below. Press Ctrl+D (Linux/macOS) or Ctrl+Z (Windows) to finish input:\n");
    // Flush newline from input buffer after scanf
    getchar();

    yylex();
    return 0;
}

```

Microsoft Windows [Version 10.0.26100.4652]  
(c) Microsoft Corporation. All rights reserved.

C:\Users\Administrator>set path=C:\GnuWin32\bin  
C:\Users\Administrator>flex replace.l.txt  
C:\Users\Administrator>set path=C:\MinGW\bin  
C:\Users\Administrator>gcc lex.yy.c  
C:\Users\Administrator>a  
Enter the word to replace: hello  
Enter the replacement word: hi  
Enter text below. Press Ctrl+D (Linux/macOS) or Ctrl+Z (Windows) to finish input:  
hi this is jyoshnavi^Z  
^Z  
hi this is jyoshnavi?

The image shows a Windows desktop environment. In the foreground, there is a code editor window titled "const.l.txt". The file contains Flex grammar code for tokens like Integer, Float, Identifier, and Invalid. Below the code editor is a command prompt window titled "Command Prompt - a". The command prompt shows the execution of the Flex tool to generate a lexer, followed by the compilation of the lexer with GCC, and finally the execution of the generated lexer on the input "hello123".

```
%{  
%}  
<INITIAL>[0-9]+ {printf("Integer\n");}  
<INITIAL>[0-9]+[.][0-9]+ {printf("Float\n");}  
<INITIAL>[A-Za-z0-9_]+ {printf("Identifier\n");}  
<INITIAL>[^n] {printf("Invalid\n");}  
%%  
  
int yywrap(){  
  
int main()  
{  
printf("Enter String\n");  
yylex();  
return 0;  
}  
  
|
```

```
Microsoft Windows [Version 10.0.26100.4652]  
(c) Microsoft Corporation. All rights reserved.  
C:\Users\Administrator>set path=C:\GnuWin32\bin  
C:\Users\Administrator>flex const.l.txt  
C:\Users\Administrator>set path=C:\MinGW\bin  
C:\Users\Administrator>gcc lex.yy.c  
C:\Users\Administrator>a  
Enter String  
hello123  
Identifier  
123  
Integer  
|
```

```
%{  
int positive_no = 0, negative_no = 0;  
}  
  
%  
^[-][0-9]+ {negative_no++;  
    printf("negative number = %s\n",yytext);}  
  
[0-9]+ {positive_no++;  
    printf("positive number = %s\n",yytext);}  
  
%%  
  
int yywrap()  
int main()  
{  
  
yylex();  
printf ("number of positive numbers = %d,"  
"number of negative numbers = %d\n",  
    positive_no, negative_no);  
  
return 0;  
}
```

```
C:\Command Prompt - a  
C:\Users\Administrator>set path=C:\GnuWin32\bin  
C:\Users\Administrator>flex pn.l.txt  
C:\Users\Administrator>set path=C:\MinGW\bin  
C:\Users\Administrator>gcc lex.yy.c  
C:\Users\Administrator>a  
-4  
negative number = -4  
5  
positive number = 5
```