

C:\Users\user\OneDrive\Documents\compiler design 1.cpp - [Executing] - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TIFF-GCC 4.9.2 64-bit Release

Project Classes Debug compiler design 1.cpp

```
44     oc++;
45 }
46 else if(b[i]=='+' )
47 {
48     operators[oc]='+' ;
49     oc++;
50 }
51 else if(b[i]=='=' )
52 {
53     operators[oc]='=' ;
54     oc++;
55 }
56 }
57 }
58 printf(" identifiers : ");
59 for(j=0;j<ic;j++)
60 {
61     printf("%c ",identifiers[j]);
62 }
63 printf("\n constants : ");
64 for(j=0;j<cc;j++)
65 {
```

C:\Users\user\OneDrive\Doc X + - □ ×

enter the string : a = b + c * e + 100
identifiers : a b c e
constants : 100
operators : = + * +

Process exited after 2.853 seconds with return value 0
Press any key to continue . . .

Compiler Resources Compile Log Debug Find Results Close

Abort Compilation

Compilation results...

- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\user\OneDrive\Documents\compiler design 1.exe
- Output Size: 129.966796875 KiB
- Compilation Time: 0.23s

Line: 65 Col: 7 Sel: 0 Lines: 75 Length: 1393 Insert Done parsing in 0.266 seconds

C:\Users\user\OneDrive\Documents\compiler design 1.cpp [Executing] - Dev-C++ 5.11

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TDM-GCC 4.9.2 64-bit Release

(globals)

Project Classes Debug compiler design 1.cpp

```
15
16 for(i=2;i<=30;i++)
17 {
18     if(com[i]=='*'&&com[i+1]== '/')
19     {
20         printf("\n It is a comment");
21         a=1;
22         break;
23     }
24     else
25         continue;
26     if(a==0)
27         printf("\n It is not a comment");
28     else
29         printf("\n It is not a comment");
30     }
31     else
32         printf("\n It is not a comment");
33 }
34 }
```

Compiler Resources Compile Log Debug Find Results Close

Abort Compilation

Compilation results...

- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\user\OneDrive\Documents\compiler design 1
- Output Size: 128.1220703125 KiB
- Compilation Time: 0.22s

C:\Users\user\OneDrive

Enter comment:Enter comment: //hello

It is not a comment

Process exited after 28.23 seconds with return value 0

Press any key to continue . . .

C:\Users\user\OneDrive\Documents\compiler design 1.c - [Executing] - Dev-C++ 5.11

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TDM-GCC 4.9.2 64-bit Release

(globals)

Project Classes Debug compiler design 1.c

```
14     case '+':
15         printf("Valid operator: PLUS\n");
16         break;
17     case '-':
18         printf("Valid operator: MINUS\n");
19         break;
20     case '*':
21         printf("Valid operator: MULTIPLY\n");
22         break;
23     case '/':
24         printf("Valid operator: DIVIDE\n");
25         break;
26     default:
27         printf("Invalid operator.\n");
28     }
29 } else {
30     printf("Invalid operator.\n");
31 }
32
33 return 0;
34 }
```

Compiler Resources Compile Log Debug Find Results Close

Abort Compilation

Compilation results...

- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\user\OneDrive\Documents\compiler
- Output Size: 128.7900390625 KiB
- Compilation Time: 0.22s

Line: 35 Col: 1 Sel: 0 Lines: 35 Length: 909 Insert Done parsing in

C:\Users\user\OneDrive\Docu X + .

Enter an operator: [+/-*/]
Invalid operator.

Process exited after 17.37 seconds with return value 0
Press any key to continue . . .

C:\Users\user\OneDrive\Documents\compiler design 1.c - [Executing] - Dev-C++ 5.11

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TDM-GCC 4.9.2 64-bit Release

(globals)

Project Classes Debug compiler design 1.c

```
45     break;
46 case '+':
47     printf("\n Addition");
48     break;
49 case '-':
50     printf("\n Subtraction");
51     break;
52 case '*':
53     printf("\n Multiplication");
54     break;
55 case '/':
56     printf("\n Division");
57     break;
58 case '%':
59     printf("\n Modulus");
60     break;
61 default:
62     printf("\n Not a operator");
63 }
```

Compiler Resources Compile Log Debug Find Results Close

Abort Compilation

Compilation results...

- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\user\OneDrive\Documents\compiler design 1.c
- Output Size: 129.1201171875 KiB
- Compilation Time: 0.25s

Line: 55 Col: 21 Sel: 0 Lines: 66 Length: 1144 Insert Done parsing in 0.016 seconds

C:\Users\user\OneDrive\Documents\compiler design 1.c

Enter any operator:<=

Less than or equal

Process exited after 3.823 seconds with return value 20

Press any key to continue . . .

C:\Users\user\OneDrive\Documents\compiler.cpp - [Executing] - Dev-C++ 5.11

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TDM-GCC 4.9.2 64-bit Release

(globals)

Project Classes Debug compiler design 1.c compiler.cpp

```
13 for (i = 0; str[i] != '\0'; i++) {
14     if (str[i] == ' ') {
15         words++;
16     }
17     else if (str[i] != '\n') {
18         characters++;
19     }
20 }
21 // Count last word in each line (if characters exist)
22 if (characters > 0 && str[0] != '\n') {
23     words++;
24 }
25
26 }
27
28 printf("\nTotal number of words : %d\n", words);
29 printf("Total number of lines : %d\n", lines);
30 printf("Total number of characters : %d\n", characters);
31
32 return 0;
33 }
```

Compiler Resources Compile Log Debug Find Results Close

Abort Compilation

Compilation results...

- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\user\OneDrive\Documents\compiler.exe
- Output Size: 128.7705078125 KiB
- Compilation Time: 0.22s

Line: 34 Col: 1 Sel: 0 Lines: 34 Length: 851 Insert Done parsing in 0 seconds

C:\Users\user\OneDrive\Docu X + v

Enter text (Press CTRL+Z then Enter to finish):

^Z

Total number of words : 0
Total number of lines : 1
Total number of characters : 0

Process exited after 15.73 seconds with return value 0
Press any key to continue . . .

C:\Users\user\OneDrive\Documents\compiler.cpp - [Executing] - Dev-C++ 5.11

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TDM-GCC 4.9.2 64-bit Release

(globals)

Project Classes Debug compiler design 1.c compiler.cpp

```
5 {
6     char a[10];
7     int flag, i=1;
8     printf("\n Enter an identifier:");
9     gets(a);
10    if(isalpha(a[0]))
11        flag=1;
12    else
13        printf("\n Not a valid identifier");
14    while(a[i]!='\0')
15    {
16        if(!isdigit(a[i])&&!isalpha(a[i]))
17        {
18            flag=0;
19            break;
20        }
21    }
22    if(flag==1)
23        printf("\n Valid identifier");
24 }
```

Enter an identifier:abc123

Valid identifier

Process exited after 4.037 seconds with return value 0

Press any key to continue . . .

Compiler Resources Compile Log Debug Find Results Close

Abort Compilation

Compilation results...

- Errors: 0

- Warnings: 0

- Output Filename: C:\Users\user\OneDrive\Documents\compiler.exe

- Output Size: 129.2724609375 KiB

- Compilation Time: 0.23s

Line: 26 Col: 1 Sel: 0 Lines: 26 Length: 397 Insert Done parsing in 0.031 seconds

C:\Users\user\OneDrive\Documents\compiler.cpp - [Executing] - Dev-C++ 5.11

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TDM-GCC 4.9.2 64-bit Release

(globals)

Project Classes Debug compiler design 1.c compiler.cpp

```

83     } j++;
84 }
85 }
86 }
87 }
88 return ;
89 }
90 /* addToResultSet adds the computed
91 * element to result set.
92 * This code avoids multiple inclusion of elements
93 */
94 void addToResultSet(char Result[],char val)
95 {
96     int k;
97     for(k=0 ;Result[k]!='\0';k++)
98         if(Result[k]==val)
99             return;
100    Result[k]=val;
101    Result[k+1]='\0';
102 }
103
104

```

Find the FIRST of :S

FIRST(S)= { \$ a b }

press 'y' to continue : y

Find the FIRST of :A

FIRST(A)= { \$ }

press 'y' to continue : y

Find the FIRST of :B

FIRST(B)= { \$ }

press 'y' to continue : n

Process exited after 100.5 seconds with return value 0

Press any key to continue . . .

Compiler Resources Compile Log Debug Find Results Close

Abort Compilation

Compilation results...

- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\user\OneDrive\Documents\compiler.exe
- Output Size: 130.576171875 KiB
- Compilation Time: 0.22s

Line: 102 Col: 2 Sel: 0 Lines: 104 Length: 2894 Insert Done parsing in 0.032 seconds

C:\Users\user\OneDrive\Documents\compiler.cpp - [Executing] - Dev-C++ 5.11

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(globals)

Project Classes Debug compiler design 1.c compiler.cpp

```
86 } else
87 { find_first(production[k][2]);
88 }
89 }
90 }
91 }
92 }
93
94 void Array_Manipulation(char ch)
95 {
96     int count;
97     for(count = 0; count <= x; count++)
98     {
99         if(array[count] == ch)
100         {
101             return;
102         }
103     }
104     array[x++] = ch;
105 }
106
107
```

Compiler Resources Compile Log Debug Find Results Close

Abort Compilation

Compilation results...

- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\user\OneDrive\Documents\compiler.exe
- Output Size: 131.3037109375 KiB
- Compilation Time: 0.22s

Enter Total Number of Productions: 4

Value of Production Number [1]: S=AaAb

Value of Production Number [2]: S=BbBa

Value of Production Number [3]: A=\$

Value of Production Number [4]: B=\$

Enter production Value to Find Follow: S

Follow Value of S: { \$ }

To Continue, Press Y: y

Enter production Value to Find Follow: A

Follow Value of A: { a b }

To Continue, Press Y: y

Enter production Value to Find Follow: B

Follow Value of B: { b a }

To Continue, Press Y: n

Process exited after 98.5 seconds with return value 0

Press any key to continue . . .

C:\Users\user\OneDrive\Documents\compiler.cpp - [Executing] - Dev-C++ 5.11

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TDM-GCC 4.9.2 64-bit Release

Project Classes Debug compiler design 1.c compiler.cpp

```

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("\n%c\''->%c%c'\'|E\n",non_terminal,alpha,non_terminal);
29         }
30         else
31             printf(" can't be reduced\n");
32     }
33     else
34         printf(" is not left recursive.\n");
35     index=3;
36 }
37 }
```

Compiler Resources Compile Log Debug Find Results Close

Abort Compilation

Compilation results...

- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\user\OneDrive\Documents\compiler.exe
- Output Size: 129.2705078125 KiB
- Compilation Time: 0.22s

Line: 38 Col: 1 Sel: 0 Lines: 38 Length: 1474 Insert Done parsing in 0.032 seconds

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 23.84 seconds with return value 0
Press any key to continue . . .

C:\Users\user\OneDrive\Documents\compiler.cpp - [Executing] - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 4.9.2 64-bit Release

(globals)

Project Classes Debug compiler design 1.c compiler.cpp

```
16     {
17         if(part1[i]==part2[i])
18         {
19             modifiedGram[k]=part1[i];
20             k++;
21             pos=i+1;
22         }
23     }
24     for(i=pos,j=0;part1[i]!='\0';i++,j++)
25     {
26         newGram[j]=part1[i];
27     }
28     newGram[j++]='|';
29     for(i=pos;part2[i]!='\0';i++,j++)
30     {
31         newGram[j]=part2[i];
32     }
33     modifiedGram[k]='X';
34     modifiedGram[++k]='\0';
35     newGram[j]='\0';
36     printf("\n S->%s",modifiedGram);
37     printf("\n X->%s\n",newGram);
38 }
```

Compiler Resources Compile Log Debug Find Results Close

Abort Compilation

Compilation results...

- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\user\OneDrive\Documents\compiler.exe
- Output Size: 128.6005859375 KiB
- Compilation Time: 0.23s

Line: 37 Col: 1 Sel: 0 Lines: 37 Length: 1111 Insert Done parsing in 0.032 seconds

C:\Users\user\OneDrive\Documents\compiler.exe

Enter Production : S->iEtS|iEtSeS|a

S->iEtSX

X->|eS|a

Process exited after 16.23 seconds with return value 0

Press any key to continue . . .

C:\Users\user\OneDrive\Documents\compiler.cpp - [Executing] - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

(globals)

Project Classes Debug compiler design 1.c compiler.cpp

```
84     printf("no such symbol");
85
86     {
87         printf("label is found \n");
88         printf("enter the address");
89         scanf("%d",&ad);
90         for(i=0;i<cnt;i++)
91         {
92             if(strcmp(sy[i].label,lab)==0)
93                 sy[i].addr=ad;
94         }
95     }
96     void display()
97     {
98         int i;
99         for(i=0;i<cnt;i++)
100            printf("%s\t%d\n",sy[i].label,sy[i].addr);
101    }
102 }
```

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
4
enter the labe:a
label is found
enter the address200

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

Process exited after 68.19 seconds with return
value 0
Press any key to continue . . .

Compiler Resources Compile Log Debug Find Results Close

Abort Compilation

Compilation results...

- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\user\OneDrive\Documents\compiler.exe
- Output Size: 130.7626953125 KiB
- Compilation Time: 0.20s

Line: 105 Col: 1 Sek: 0 Lines: 105 Length: 1593 Insert Done parsing in 0.031 seconds

C:\Users\user\OneDrive\Documents\compiler.cpp - [Executing] - Dev-C++ 5.11

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TDM-GCC 4.9.2 64-bit Release

(globals)

Project Classes Debug compiler design 1.c compiler.cpp

```
81     i++;
82     if (E())
83     {
84         if (input[i] == ')')
85         {
86             i++;
87             return 1;
88         }
89         return 0;
90     }
91     return 0;
92 }
93 else if ((input[i] >= 'a' && input[i] <= 'z') ||
94           (input[i] >= 'A' && input[i] <= 'Z'))
95 {
96     i++;
97     return 1;
98 }
99
100 return 0;
101 }
102 }
```

Compiler Resources Compile Log Debug Find Results Close

Abort Compilation

Compilation results...

- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\user\OneDrive\Documents\compiler.exe
- Output Size: 130.5654296875 KiB
- Compilation Time: 0.24s

Line: 102 Col: 1 Sel: 0 Lines: 102 Length: 1645 Insert Done parsing in 0.015 seconds

Recursive Descent Parsing for Grammar:

E → T E'
E' → + T E' | @
T → F T'
T' → * F T' | @
F → (E) | ID

Enter the string to check: (a+b)*c

String is accepted

Process exited after 23.55 seconds with return value 0

Press any key to continue . . .

C:\Users\user\OneDrive\Documents\compiler.cpp - [Executing] - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

(globals)

Project Classes Debug compiler design 1.c compiler.cpp

```
9     gets(string);
10    if(string[0]=='a') {
11        flag=0;
12        for (count=1;string[count-1]!='\0';count++) {
13            if(string[count]=='b') {
14                flag=1;
15                continue;
16            } else if((flag==1)&&(string[count]=='a')) {
17                printf("The string does not belong to the specified grammar");
18                break;
19            } else if(string[count]=='a')
20                continue; else if((flag==1)&&(string[count]=='\0')) {
21                printf("String not accepted...!!!!");
22                break;
23            } else {
24                printf("String accepted");
25            }
26        }
27    }
28 }
```

The grammar is: S->aS, S->Sb, S->ab
Enter the string to be checked:
abb
String accepted

Process exited after 4.434 seconds with return value 0
Press any key to continue . . .

Compiler Resources Compile Log Debug Find Results Close

Abort Compilation

Compilation results...

- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\user\OneDrive\Documents\compiler.exe
- Output Size: 128.76953125 KiB
- Compilation Time: 0.22s

Line: 30 Col: 1 Sel: 0 Lines: 30 Length: 708 Insert Done parsing in 0.031 seconds

C:\Users\user\OneDrive\Documents\compiler.cpp - [Executing] - Dev-C++ 5.11

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TDM-GCC 4.9.2 64-bit Release

Project Classes Debug compiler design 1.c compiler.cpp

```

40 strcpy(stack,"E"); st_ptr=0; if(!strcmpi(stack,"E+E"))
41 printf("\n $%s\t\t$%s$\t\t\t->+E",stack,ip_sym); else
42 if(!strcmpi(stack,"E*E"))
43 printf("\n $%s\t\t$%s$\t\t\t->E*E",stack,ip_sym); else
44 if(!strcmpi(stack,"E*a"))
45 printf("\n $%s\t\t$%s$\t\t\t->E*a",stack,ip_sym); else
46 printf("\n $%s\t\t$%s$\t\t\t->E+E",stack,ip_sym); flag=1;
47 }
48
49 if(!strcmpi(stack,"E")&&ip_ptr==len)
50 {
51 printf("\n $%s\t\t$%s$\t\t\t->ACCEPT",stack,ip_sym); getch();
52 exit(0);
53 }
54 if(flag==0)
55 {
56 printf("\n $%s\t\t$%s$\t\t\t->reject",stack,ip_sym); exit(0);
57 }
58 return;
59 }
```

Compiler Resources Compile Log Debug Find Results Close

Abort Compilation

Compilation results...

- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\user\OneDrive\Documents\compiler.exe
- Output Size: 131.4677734375 KiB
- Compilation Time: 0.22s

Line: 61 Col: 1 Sel: 0 Lines: 61 Length: 1942 Insert Done parsing in 0.031 seconds

SHIFT REDUCE PARSER

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

C:\Users\user\OneDrive\Documents\compiler.cpp - [Executing] - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC

(globals)

Project Classes Debug compiler design 1.c compiler.cpp

```

122     if (reduce())
123     {
124         printf("\n");
125         dispstack();
126         printf("\t");
127         dispinput();
128         printf("\tReduced: E->%s", lasthandle);
129     }
130     else
131     {
132     }
133
134     if (strcmp(stack, "$E$") == 0)
135     {
136         printf("\n\nAccepted.\n");
137     }
138     else
139     {
140         printf("\n\nNot Accepted.\n");
141     }
142     free(input);
143     return 0;

```

SHIFT REDUCE PARSER

GRAMMER

```

E->E+E
E->E/E
E->E*E
E->a/b
enter the input symbol: i+i*i

```

stack implementation table

stack	input symbol	action
\$	i+i*i\$	--
\$i	+i*i\$	shift
i		
\$i+	i*i\$	shift+
\$i+i	*i\$	shifti
\$i+i*	i\$	shift*
i+i*	i	reject
t		

Process exited after 10.3 seconds with return value 0
Press any key to continue . . .

Line Col File Message

C:\Program Files (x86)\Dev-Cpp\MinGW64\x86_64-w64-... cannot open output file C:\Users\user\OneDrive\Documents\c... [Error] Id returned 1 exit status

Line: 143 Col: 1 Sel: 0 Lines: 143 Length: 3186 Insert Done parsing in 0.032 seconds

C:\Users\user\OneDrive\Documents\Untitled1.cpp - [Executing] - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

IDM-GCC 4.9.2 64-bit Release

(globals)

Project Classes Debug Untitled1.cpp

```
61     strcpy(t2, valStack[topVal--]);
62     strcpy(t1, valStack[topVal--]);
63
64     newTemp(result);
65
66     printf("%s = %s %c %s\n", result, t1, op, t2);
67     strcpy(valStack[++topVal], result);
68
69 }
70
71     opStack[+topOp] = ch;
72
73
74 // Process remaining operators
75 while (topOp >= 0) {
76     char op = opStack[topOp--];
77     char t1[10], t2[10], result[10];
78
79     strcpy(t2, valStack[topVal--]);
80     strcpy(t1, valStack[topVal--]);
81
82     newTemp(result);
83 }
```

Compiler Resources Compile Log Debug Find Results Close

Abort Compilation

Compilation results...

- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\user\OneDrive\Documents\Untitled1.exe
- Output Size: 131.3935546875 KiB
- Compilation Time: 0.20s

Line: 92 Col: 1 Sel: 0 Lines: 92 Length: 2440 Insert Done parsing in 0.063 seconds

Enter an expression:
a+b*c-d
t1 = b * c
t2 = a + t1
t3 = t2 - d

Final Result stored in: t3

Process exited after 15.05 seconds with return value 0
Press any key to continue . . .

C:\Users\user\OneDrive\Documents\Untitled1.cpp - [Executing] - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 4.9.2 64-bit Release

(globals)

Project Classes Debug Untitled1.cpp

```
29 |     if (isspace(ch)) {
30 |         inWord = 0;
31 |     } else if (inWord == 0) {
32 |         inWord = 1;
33 |         words++;
34 |     }
35 |
36 |
37     fclose(fp);
38
39     if (characters > 0 && lines == 0)
40         lines = 1;
41
42     printf("\n--- Lexical Analysis Result ---\n");
43     printf("Total Characters : %d\n", characters);
44     printf("Total Words      : %d\n", words);
45     printf("Total Lines       : %d\n", lines);
46
47     return 0;
48 }
49 }
```

Compiler Resources Compile Log Debug Find Results Close

Abort Compilation

Compilation results...

- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\user\OneDrive\Documents\Untitled1.exe
- Output Size: 130.1240234375 KiB
- Compilation Time: 0.20s

Line: 50 Col: 1 Sel: 0 Lines: 50 Length: 1095 Insert Done parsing in 0.016 seconds

C:\Users\user\OneDrive\Documents

Enter filename: untitled1

Error: File 'untitled1' NOT FOUND!

Place the file inside the SAME folder shown above.

Process exited after 7.367 seconds with return value 1

Press any key to continue . . .

C:\Users\user\OneDrive\Documents\Untitled1.cpp - [Executing] - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 4.9.2 64-bit Release

(globals)

Project Classes Debug Untitled1.cpp

```
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 }
30 if(a[i][4]=='*')
31 {
32     printf("\n mul %c,R%d",a[i][5],i);
33 }
34 if(a[i][4]=='/')
35 {
36     printf("\n div %c,R%d",a[i][5],i);
37 }
38 printf("\n mov R%d,%c",i,a[i][1]);
39 printf("\n");
40 }
41 return 0;
42 }
```

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 37.17 seconds with return value 0
Press any key to continue . . .

Compiler Resources Compile Log Debug Find Results Close

Compilation results...

- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\user\OneDrive\Documents\Untitled1.exe
- Output Size: 130.2734375 KiB
- Compilation Time: 0.20s

Line: 42 Col: 1 Sel: 0 Line: 42 Length: 747 Insert Done parsing in 0.021 seconds

C:\Users\user\OneDrive\Documents\Untitled1.cpp - [Executing] - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

(globals)

project Classes Debug Untitled1.cpp

```
45     |     install(prod[i], re);
46   }
47 }
48 for (i = 0; i < 18; ++i) {
49   printf("\n\t");
50   for (j = 0; j < 3; ++j)
51     printf("%c\t", arr[i][j]);
52 }
53 getch();
54 printf("\n\n");
55 for (i = 0; i < 18; ++i) {
56   if (pri != arr[i][0]) {
57     pri = arr[i][0];
58     printf("\n\t%c -> ", pri);
59   }
60   if (arr[i][2] == 'T')
61     printf("%c ", arr[i][1]);
62 }
63 getch();
64 }
```

Compiler Resources Compile Log Debug Find Results Close

Abort Compilation

Compilation results...

- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\user\OneDrive\Documents\Untitled1.exe
- Output Size: 130.388671875 KiB
- Compilation Time: 0.24s

Line: 66 Col: 1 Sel: 0 Lines: 66 Length: 1873 Insert Done parsing in 0.015 seconds

E + T
E * T
E (T
E) F
E \$ F
F + F
F * F
F (T
F) F
F i T
F \$ F
T + F
T * T
T (T
T) F
T i T
T \$ F

C:\Users\user\OneDrive\Documents\Untitled1.cpp - [Executing] - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 4.9.2 64-bit Release

(globals)

Project Classes Debug Untitled1.cpp

```
75 } }
76 }
77 }
78 }
79
80 int main() {
81     for (int i = 0; i < 3; i++)
82         trailing[i][0] = '\0';
83
84     computeTrailing();
85
86     printf("\nTRAILING() sets:\n");
87     for (int i = 0; i < 3; i++) {
88         printf("TRAILING(%c) = { ", nonTerminals[i]);
89         for (int j = 0; trailing[i][j] != '\0'; j++)
90             printf("%c ", trailing[i][j]);
91         printf("}\n");
92     }
93
94     return 0;
95 }
```

Compiler Resources Compile Log Debug Find Results Close

Abort Compilation

Compilation results...

- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\user\OneDrive\Documents\Untitled1.exe
- Output Size: 130.4892578125 Kib
- Compilation Time: 0.24s

Line: 96 Col: 1 Sel: 0 Lines: 96 Length: 2573 Insert Done parsing in 0.015 seconds

C:\Users\user\OneDrive\Untitled1.exe

TRAILING() sets:
TRAILING(E) = { + = }
TRAILING(T) = { * = }
TRAILING(F) = {) d i }

Process exited after 0.1182 seconds with return value 0
Press any key to continue . . .