Date :- 30 September 2020.   Name :- Hritik Singh   USN :- 1BM19CS063

DS Lab Program 2 :-

```
# include <stdio.h>
# include <string.h>
# include <proces.h>
int F (char symbol)
{
        switch (symbol)
        {
          case '+':
          case '-': return 2;
          case '*':
          case '/': return 4:
          case '^': return 5:
          case '&': return 0;
          case '#': return -1;
          default: return 8:
        }
}

int G (char symbol)
{
        switch (symbol)
        {
          case '+':
          case '-': return 1:
          case '*':
          case '/': return 3:
          case '^':
          case '&': return 6:
          case '(': return 9:
          case ')': return 0:
          default: return 7:
        }
}
```

```
void infix_porfix (char infix [], char postfix [])
{
    int top, i, j;
    char s[30], symbol;
    top == -1;
    s[++ top] = '#';
    j =0
    for (i=0 ; i< strlen (infix); i++)
    {
        symbol = infix [i];
        while (F(s[top])> G (symbol)
        {
            portfix [j] = s[top --];
            j++;
        }
        if (F(s[top]) != G (symbol))
            s[++ top] = symbol;
        else top --;
    }
    while  s[top] != '#')
    {
        portfix [j++] = s[top --];
    }            postfix [j] = '\0';
}
void main ()
{
    char infix [20];
    char portfix [20];
    clr scr ();
    printf ("Enter the valid infix expression \n");
    scanf ("%s", infix);
    infix_portfix (infix, portfix);
    printf (" The portfix expression is \n");
    printf (" %s\n", portfix);
    return 0;
}
```

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Output :-

Enter the valid infisc expression

$((a+b) * c - (d - e))^\wedge (f+g)$

The postfixc expression is

a b + c * d e - - f g + $\wedge$

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```c
47              }
48              if(F(s[top])!=G(symbol))
49                  s[++top]=symbol;
50              else
51                  top--;
52          }
53          while (s[top]!='#')
54          {
55              postfix[j++]=s[top--];
56          }
57          postfix[j]='\0';
58      }
59      int main()
60      {
61          char infix[20];
62          char postfix[20];
63          printf("Enter the vaid infix expression\n");
64          scanf("%s",infix);
65          infix_postfix(infix,postfix);
66          printf("The postfix expression is\n");
67          printf("%s\n",postfix);
68          return 0;
69
70      }
71
72
```

Logs & others

Code::Blocks Search results Cccc Build log Build messages CppCheck/Vera++ CppCheck/Vera++ messages Cscope Debugger DoxyBlocks Fortran info

```
-------------- Run: Debug in DSlabprogram2 (compiler: GNU GCC Compiler)---------------

Checking for existence: C:\DSlabprogram2\bin\Debug\DSlabprogram2.exe
Executing: "C:\Program Files (x86)\CodeBlocks/cb_console_runner.exe" "C:\DSlabprogram2\bin\Debug\DSlabprogram2.exe"  (in C:\DSlabprogram2\.)
Process terminated with status -1073741510 (1 minute(s), 3 second(s))
```

C:\DSlabprogram2\main.c

C/C++   Windows (CR+LF)   WINDOWS-1252   Line 72, Col 1, Pos 1379   Insert   Read/Write   default

```c
#include <stdio.h>
#include <string.h>
#include<process.h>
int F(char symbol)
{
    switch(symbol)
    {
    case '+':
    case '-':return 2;
    case '*':
    case '/':return 4;
    case '^':return 5;
    case '(':return 0;
    case '#':return -1;
    default:return 8;
    }
}
int G(char symbol)
{
    switch(symbol)
    {
    case '+':
    case '-':return 1;
    case '*':
    case '/':return 3;
    case '^':
    case '(':return 6;
```

Run: Debug in DSlabprogram2 (compiler: GNU GCC Compiler)

Checking for existence: C:\DSlabprogram2\bin\Debug\DSlabprogram2.exe
Executing: "C:\Program Files (x86)\CodeBlocks/cb_console_runner.exe" "C:\DSlabprogram2\bin\Debug\DSlabprogram2.exe" (in C:\DSlabprogram2\.)
Process terminated with status -1073741510 (1 minute(s), 3 second(s))

main.c [DSlabprogram2] - Code::Blocks 17.12

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`<global>` | infix_postfix(char infix[], char postfix[]) : void

Management

Projects Symbols Files

Workspace
  DSlabprogram2
    Sources
      main.c

```c
27          case '$':return 6;
28          case '(':return 9;
29          case ')':return 0;
30          default :return 7;
31          }
32      }
33      void infix_postfix(char infix[],char postfix[])
34      {
35          int top, i, j;
36          char s[30],symbol;
37          top=-1;
38          s[++top]='#';
39          j=0;
40          for(i=0;i<strlen(infix);i++)
41          {
42              symbol=infix[i];
43              while(F(s[top])>G(symbol))
44              {
45                  postfix[j]=s[top--];
46                  j++;
47              }
48              if(F(s[top])!=G(symbol))
49                  s[++top]=symbol;
50              else
51                  top--;
52          }
53          while (s[top]!='#')
```

Logs & others

Code::Blocks | Search results | Cccc | Build log | Build messages | CppCheck/Vera++ | CppCheck/Vera++ messages | Cscope | Debugger | DoxyBlocks | Fortran info

```
-------------- Run: Debug in DSlabprogram2 (compiler: GNU GCC Compiler)---------------
Checking for existence: C:\DSlabprogram2\bin\Debug\DSlabprogram2.exe
Executing: "C:\Program Files (x86)\CodeBlocks/cb_console_runner.exe" "C:\DSlabprogram2\bin\Debug\DSlabprogram2.exe"  (in C:\DSlabprogram2\.)
Process terminated with status -1073741510 (1 minute(s), 3 second(s))
```

C:\DSlabprogram2\main.c   C/C++   Windows (CR+LF)   WINDOWS-1252   Line 39, Col 9, Pos 692   Insert   Read/Write   default

Type here to search

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`<global>` G(char symbol) : int

Management

Projects Symbols Files

Workspace
  DSlabprogram2
    Sources
      main.c

main.c

```c
1   #include <stdio.h>
2   #include <string.h>
3   #include<process.h>
4   int F(char symbol)
5   {
6       switch(symbol)
7       {
8       case '+':
9       case '-':return 2;
10      case '*':
11      case '/':return 4;
12      case '^':return 5;
13      case '(':return 0;
14      case '#':return -1;
15      default:return 8;
16      }
17  }
18  int G(char symbol)
19  {
20      switch(symbol)
21      {
22      case '+':
23      case '-':return 1;
24      case '*':
25      case '/':return 3;
26      case '^':
27      case 'S':return 6;
```

C:\DSlabprogram2\bin\Debug\DSlabprogram2.exe

```
Enter the vaid infix expression
((a+b)*c-(d-e))^(f+g)
The postfix expression is
ab+c*de--fg+^

Process returned 0 (0x0)   execution time : 38.669 s
Press any key to continue.
```

Logs & others

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```
Nothing to be done (all items are up-to-date).


-------------- Run: Debug in DSlabprogram2 (compiler: GNU GCC Compiler)---------------
Checking for existence: C:\DSlabprogram2\bin\Debug\DSlabprogram2.exe
Executing: "C:\Program Files (x86)\CodeBlocks\cb_console_runner.exe" "C:\DSlabprogram2\bin\Debug\DSlabprogram2.exe"  (in C:\DSlabprogram2\.)
```

C/C++   Windows (CR+LF)   WINDOWS-1252   Line 21, Col 6, Pos 355   Insert   Read/Write   default

Type here to search