

FileEditSelectionViewGoRunTerminalHelp

EXPLORER

OPEN EDITORS

INToPRE.c Sem3\A...

Ev_PO.c Sem3\Assi...

C LANGUAGE

String.c

Try.exe

File

PVSCode

Sem1

Sem2

Sem3

Assignment 1

Assignment 2

Assignment 3

Assignment 4

Assignment 4.1

Assignment 5

Assignment 5.1

Assignment 6

Assignment 7.1

Ev_PO.c

Ev_PO.exe

InToPo_Q1.c

InToPo_Q1.exe

Assignment 8

INToPRE.c

INToPRE.exe

Lab 8.pdf

Q1 (1).png

Q1 (2).png

Q1 (3).png

VS_Sem2

Google Easy Ques1.xlsx

letusc-yashwantkanetk...

tempCodeRunnerFile.c

OUTLINE

Sem3 > Assignment 8 > C INToPRE.c > initialize()

```
1 //JOHN ALEXANDER E 20011896
2 #include <ctype.h>
3 #include <stdio.h>
4 #include <string.h>
5 #include <math.h>
6 typedef struct Stack
7 {
8     int arr[100];
9     char exp[100];
10    int top;
11 }Stack;
12 Stack s;
13 void initialize()
14 {
15     printf("JOHN ALEXANDER E 20011896\n");
16     s.top = -1;
17     printf("Enter an expression\n");
18     scanf("%s",s.exp);
19 }
20 int push(char ch)
21 {
22     s.arr[++s.top] = ch;
23 }
24 int pop()
25 {
26     return s.arr[s.top--];
27 }
28 int prec(char ch)
29 {
30     static int k = 3;
31     switch(ch)
32     {
33         case '+':
34         case '-':
35         return 1;
36         case '*':
37         case '/':
38         return 2;
39         case '^':
40         return k;
```

C:\WINDOWS\system32\cmd.exe

JOHN ALEXANDER E 20011896
Enter an expression
7*3+(3^2-4)
PREFIX : +*73-^324
RESULT : 26
Press any key to continue . . .

0 0 0

Type here to search

Ln 15, Col 43

Spaces: 4

UTF-8

CRLF

C

Win32

11:57 PM

14-10-2021

Activate Windows
Go to Settings to activate Windows.

File

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38

return 2;

39

case '^':

40

return k++;

41

default :

42

return -1;

43

}

44

}

45

int isEmpty()

46

{

47

return s.arr[s.top] == -1;

48

}

49

char* rev_exp()

50

{

51

char *ex = strrev(s.exp);

52

for(int i = 0;ex[i]!='\0';i++)

53

if(ex[i] == ')')

54

ex[i] = '(';

55

else

56

if(ex[i] == '(')

57

ex[i] = ')';

58

return ex;

59

}

60

char *prefix(char *ex)

61

{

62

int c = 0;

63

for(int i = 0;ex[i]!='\0';i++)

64

{

65

if(isalpha(ex[i]) || isdigit(ex[i]))

66

ex[c++] = ex[i];

67

else

68

if(ex[i] == '(')

69

push(ex[i]);

70

else

71

if(ex[i] == ')')

72

{

73

while(!isEmpty() && s.arr[s.top] != '(')

74

ex[c++] = pop();

75

pop();

76

}

77

}

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EXPLORERC INTOPRE.c X Ev_PO.c

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String.c Try.exe File PVSCode Sem1 Sem2 Sem3 Assignment 1 Assignment 2 Assignment 3 Assignment 4 Assignment 4.1 Assignment 5 Assignment 5.1 Assignment 6 Assignment 7.1 Ev_PO.c Ev_PO.exe InToPo_Q1.c InToPo_Q1.exe Assignment 8 INTOPRE.c INTOPRE.exe Lab 8.pdf Q1 (1).png Q1 (2).png Q1 (3).png VS_Sem2 Google Easy Ques1.xlsx letusc-yashwantkanetk... tampaCodeRunnerFile.c OUTLINE

Sem3 > Assignment 8 > C INTOPRE.c > initialize()

```
75     pop();
76     }
77     else
78     {
79         while(!isEmpty() && prec(ex[i]) < prec(s.arr[s.top]))
80             ex[++i] = pop();
81         push(ex[i]);
82     }
83     }
84     while(!isEmpty())
85     {
86         ex[++i] = pop();
87         printf("PREFIX : %s",ex);
88         return ex;
89     }
90     int calc(int op2, int op1, char ch)
91     {
92         switch(ch)
93         {
94             case '+':
95                 return push(op1+op2);
96             case '-':
97                 return push(op1-op2);
98             case '*':
99                 return push(op1*op2);
100             case '/':
101                 return push(op1/op2);
102             case '^':
103                 return push(pow(op1,op2));
104         }
105     }
106     int evaluate(char *ex)
107     {
108         int l = strlen(ex);
109         for(int i = l-1;i>=0;i--)
110             if(isdigit(ex[i]))
111                 push(ex[i] - '0');
112         else
113             {
```

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INtoPRE.c - C language - Visual Studio Code

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88     return ex;
89 }
90 int calc(int op2, int op1, char ch)
91 {
92     switch(ch)
93     {
94         case '+':
95             return push(op1+op2);
96         case '-':
97             return push(op1-op2);
98         case '*':
99             return push(op1*op2);
100        case '/':
101            return push(op1/op2);
102        case '^':
103            return push(pow(op1,op2));
104    }
105 }
106 int evaluate(char *ex)
107 {
108     int l = strlen(ex);
109     for(int i = l-1;i>=0;i--)
110         if(isdigit(ex[i]))
111             push(ex[i] - '0');
112         else
113         {
114             int op2 = pop();
115             int op1 = pop();
116             calc(op1,op2,ex[i]);
117         }
118     printf("\nRESULT : %d",pop());
119 }
120 int main()
121 {
122     initialize();
123     char *ex = rev_exp();
124     ex = prefix(ex);
125     evaluate(ex);
126 }
```

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