

DS STACK NOTATIONS

The screenshot shows an IDE window titled "DS DTACK NOTATION.cpp - Embarcadero Dev-C++ 6.3". The code in the editor is as follows:

```
1 #include<stdio.h>
2 #include <string.h>
3 #include <limits.h>
4 #include <stdlib.h>
5 struct Stack {
6     int top;
7     int maxSize;
8     int* array;
9 };
10 struct Stack* create(int max)
11 {
12     struct Stack* stack = (struct Stack*)malloc(sizeof(struct Stack));
13     stack->maxSize = max;
14     stack->top = -1;
15     stack->array = (int*)malloc(stack->maxSize * sizeof(int));
16     return stack;
17 }
18 int isFull(struct Stack* stack)
19 {
20     if(stack->top == stack->maxSize - 1)
21     {
22         printf("Will not be able to push maxSize reached\n");
23     }
24     return stack->top == stack->maxSize - 1;
25 }
26 int isEmpty(struct Stack* stack)
27 {
28     return stack->top == -1;
29 }
30 void push(struct Stack* stack, int item)
31 {
32     if (isFull(stack))
```

The message window shows a warning: "In function 'int covertInfixToPostfix(char*): [Warning] control reaches end of non-void function [-Wreturn-type]". The status bar at the bottom indicates "Line: 102 Col: 30 Sel: 0 Lines: 106 Length: 2082 Insert Done parsing in 0.016 seconds".

The screenshot shows the same IDE window, displaying the continuation of the C++ program. The code in the editor is as follows:

```
31 {
32     if (isFull(stack))
33         return;
34     stack->array[++stack->top] = item;
35 }
36 int pop(struct Stack* stack)
37 {
38     if (isEmpty(stack))
39         return INT_MIN;
40     return stack->array[stack->top--];
41 }
42 int peek(struct Stack* stack)
43 {
44     if (isEmpty(stack))
45         return INT_MIN;
46     return stack->array[stack->top];
47 }
48 int checkIfOperand(char ch)
49 {
50     return (ch >= 'a' && ch <= 'z') || (ch >= 'A' && ch <= 'Z');
51 }
52 int precedence(char ch)
53 {
54     switch (ch)
55     {
56     case '+':
57     case '-':
58         return 1;
59     case '*':
60     case '/':
61         return 2;
62     case '^':
```

The message window shows the same warning: "In function 'int covertInfixToPostfix(char*): [Warning] control reaches end of non-void function [-Wreturn-type]". The status bar at the bottom indicates "Line: 102 Col: 30 Sel: 0 Lines: 106 Length: 2082 Insert Done parsing in 0.016 seconds".

C:\Users\jaswa\OneDrive\Documents\DS DTACK NOTATION.cpp - Embarcadero Dev-C++ 6.3

File Edit Search View Project Execute Tools AStyle Window Help

(globals)

Project Class

Untitled1 x Untitled6 x DS Queue using array.cpp x DS DTACK NOTATION.cpp x

```
61 return 2;
62 case '^':
63 return 3;
64 }
65 return -1;
66 }
67 int covertInfixToPostfix(char* expression)
68 {
69 int i, j;
70 struct Stack* stack = create(strlen(expression));
71 if(!stack)
72 return -1;
73 for (i = 0, j = -1; expression[i]; ++i)
74 {
75 if (checkIfOperand(expression[i]))
76 expression[++j] = expression[i];
77 else if (expression[i] == '(')
78 push(stack, expression[i]);
79 else if (expression[i] == ')')
80 {
81 while (!isEmpty(stack) && peek(stack) != '(')
82 expression[++j] = pop(stack);
83 if (!isEmpty(stack) && peek(stack) != '(')
84 return -1;
85 else
86 pop(stack);
87 }
88 else
89 {
90 while (!isEmpty(stack) && precedence(expression[i]) <= precedence(peek(stack)))
91 expression[++j] = pop(stack);
92 push(stack, expression[i]);
93 }
```

Compiler (2) Resources Compile Log Debug Find Results Console Close

Line Col File Message

C:\Users\jaswa\OneDrive\Documents\DS D... In function 'int covertInfixToPostfix(char*):

99 1 C:\Users\jaswa\OneDrive\Documents\DS DTACK... [Warning] control reaches end of non-void function [-Wreturn-type]

Line: 102 Col: 30 Sel: 0 Lines: 106 Length: 2082 Insert Done parsing in 0.016 seconds

23-24 04-08-2023

C:\Users\jaswa\OneDrive\Documents\DS DTACK NOTATION.cpp - [Executing] - Embarcadero Dev-C++ 6.3

File Edit Search View Project Execute Tools AStyle Window Help

(globals)

Project Class

Untitled1 x Untitled6 x DS Queue using array.cpp x DS DTACK NOTATION.cpp x

```
75 if (checkIfOperand(expression[i]))
76 expression[++j] = expression[i];
77 else if (expression[i] == '(')
78 push(stack, expression[i]);
79 else if (expression[i] == ')')
80 {
81 while (!isEmpty(stack) && peek(stack) != '(')
82 expression[++j] = pop(stack);
83 if (!isEmpty(stack) && peek(stack) != '(')
84 return -1;
85 else
86 pop(stack);
87 }
88 else
89 {
90 while (!isEmpty(stack) && precedence(expression[i]) <= precedence(peek(stack)))
91 expression[++j] = pop(stack);
92 push(stack, expression[i]);
93 }
94 }
95 while (!isEmpty(stack))
96 expression[++j] = pop(stack);
97 expression[++j] = '\0';
98 printf("%s", expression);
99 }
100 int main()
101 {
102 char expression[] = "((A*(B+C))-w)";
103 covertInfixToPostfix(expression);
104 return 0;
105 }
```

Compiler (2) Resources Compile Log Debug Find Results Console Close

Line Col File Message

C:\Users\jaswa\OneDrive\Documents\DS D... In function 'int covertInfixToPostfix(char*):

99 1 C:\Users\jaswa\OneDrive\Documents\DS DTACK... [Warning] control reaches end of non-void function [-Wreturn-type]

Line: 102 Col: 30 Sel: 0 Lines: 106 Length: 2082 Insert Done parsing in 0.016 seconds

23-24 04-08-2023

C:\Users\jaswa\OneDrive\Documents\DS DTACK NOTATION.exe

AB+C++--

Process exited after 6.026 seconds with return value 0

Press any key to continue . . .