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1 // Question_2.cpp : This file contains the 'main' function. Program execution begins and ends there.
2 //
3 //
4 // /
5 //-----
6 //Name Sai Chaitanya Kilambi
7 //Course CPSC 131 Data Structures, Fall, 2022
8 //Assignment No.6b question:2
9 //Due date 10/12/2022
10 // Purpose:
11 // This program performs postfix arithmetic
12 //-----
13 // list of libraries
14 //
15 //importing the required libraries
16 #include <iostream>
17 #include<string>
18
19
20 using namespace std;
21
22
23 //function to check if both the brackets are present
24 bool checkBalance(string str)
25 {
26     bool f = true;
27     int c;
28     c = 0;
29     int i;
30     //for loop over the string
31     for (i = 0; i < str.length(); i++)
32     {
33         if (str[i] == '(')
34         {
35             c++;
36         }
37         else
38         {
39             c--;
40         }
41         if (c < 0)
42         {
43             f = false;
44             break;
45         }
46     }
```

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47     }
48
49     if (c != 0)
50     {
51         f = false;
52     }
53     return f;
54 }
55
56 //main function
57 int main()
58 {
59     while (1)
60     {
61         //input prompt
62         cout << "\nEnter an algebraic expression with $ at the end : ";
63
64         string str, str1;
65
66         cin >> str;
67
68
69         //going over the input
70         for (int i = 0; i < str.size(); i++)
71         {
72
73             if (str[i] == ')' || str[i] == '(')
74             {
75                 str1 = str1 + str[i];
76             }
77
78         }
79
80         // calling the check function
81         if (checkBalance(str1))
82         {
83             cout << "( and ) are balanced" << endl;
84         }
85         else
```

```
96
97     {
98
99         cout << "( and ) are not balanced" << endl;
100
101     }
102     //input prompt fo the flag
103
104     cout << "\nCONTINUE(y/n)?";
105
106     char ch;
107
108     cin >> ch;
109
110     if (ch != 'y')
111     {
112
113         break;
114
115     }
116
117 }
118
119
120 return 0;
121
122 }
```