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...ssignments\131_Assignment_5\Question_2\Question_2.cpp 1
1 // Question_2.cpp : This file contains the 'main' function. Program ➤
  execution begins and ends there.
2 //
3 // / ➤
  ----- ➤
  -----
4 //Name                Sai Chaitanya Kilambi
5 //Course              CPSC 131 Data Structures, Fall, 2022
6 //Assignment          No.5 question:2
7 //Due date           09/28/2022
8 // Purpose:
9 // This program checks if the given sentence is a palindrome or not
10 //----- ➤
    -----
11 // list of libraries
12 //
13 //importing the required libraries
14 #include <iostream>
15 #include <string>
16 #include "STACKPAC.h" // using the STACKPAC header file
17
18
19 //function that checs if palindrome or not
20 void checkPalindrome(std::string s)
21 {
22     Stack <char, 100> a;           //creating a stack
23     a.clearStack();               //clearing the stack
24     std::string sen = "";
25
26     //to go over the input string and take only the alphabets into the ➤
        stack
27     for (int j = 0; j < s.length(); j++)
28     {
29         char c = s[j];
30         if ((c >= 'a' && c <= 'z') || (c >= 'A' && c <= 'Z')) {
31             sen += tolower(c); //converting the alphabets to the lower ➤
                case
32         }
33
34     }
35
36     //pusing the string into the stack
37     for (int j = 0; j < sen.length(); j++) {
38         a.pushStack(sen[j]);
39     }
40
41     //comparing the stack and the string to see if it is a palindrome or ➤
        not
42     for (int j = 0; j < sen.length(); j++) {

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43     char c = a.popStack();
44     if (c != sen[j]) {
45         std::cout << "This phrase is not a palindrome\n";
46         return;
47     }
48 }
49 std::cout << "This phrase is a palindrome\n";
50 }
51
52
53 //main function
54 int main()
55 {
56     std::string s;
57
58     //input prompt for the number of phrases
59     std::cout << "How many phrases would you like to try? ";
60     std::getline(std::cin,s);
61
62
63     int n = stoi(s);
64     while(n-->0)
65     {
66         std::cout << std::endl;
67         std::cout << "Enter a phrase: ";
68
69         //taking the input of the string
70         std::getline(std::cin, s);
71
72         //calling the function
73         checkPalindrome(s);
74     }
75
76     return 0;
77
78
79 }
80
81
```