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...ssignments\131_Assignment_3\question_1\question_1.cpp 1
1 // question_1.cpp : This file contains the 'main' function. Program 2
  execution begins and ends there.
2 //// / 2
  ----- 2
  -----
3 //Name Sai Chaitanya Kilambi
4 //Course CPSC 131 Data Structures, Fall, 2022
5 //Assignment No.3 question:1
6 //Due date 09/14/2022
7 // Purpose:
8 //This program calculates the number of words,Uppercase Letters, Lowercase 2
  letters,vowels and number of 'CARE' substrings in a sentence.
9 //----- 2
  -----
10 // list of libraries
11 //
12 //importing the required libraries
13
14 #include <iostream>
15 #include<string>
16 #include<iomanip>
17
18
19 //creating a isvowel function
20 bool isvowel(std::string str,int i) {
21
22     if (str[i] == 'a' || str[i] == 'A' || str[i] == 'e' || str[i] == 'E' 2
        || str[i] == 'i' || str[i] == 'I' || str[i] == 'o' || str[i] == 'O' 2
        || str[i] == 'u' || str[i] == 'U')
23     {
24
25         return true;
26     }
27     else {
28         return false;
29     }
30 }
31
32
33 }
34
35 //main function
36
37 int main()
38 {
39     //initializing the values
40     int words = 0, uppercase = 0, lowercase = 0, vowels = 0,care=0;
41     std::string sentence;
42

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43 //printing the input prompt to the user
44 std::cout << "Enter a sentence: ";
45 std::getline(std::cin, sentence);
46
47
48 //loop to go charecter by charecter in a string
49 for (int i = 0; i < sentence.length(); i++)
50 {
51
52     //to check the number of words
53     if (isspace(sentence[i])) {
54         words++;
55     }
56
57     //to check the number of uppercase letters
58     if (isupper(sentence[i])) {
59         uppercase++;
60     }
61
62     //to check the number of lower case letters
63     if (islower(sentence[i])) {
64         lowercase++;
65     }
66
67     //calling the is vowel function to check the vowels
68
69     if (isvowel(sentence,i)) {
70         vowels++;
71     }
72
73     //checking for the substring 'CARE"
74     if (sentence[i]=='E' && sentence[i-1] == 'R' && sentence[i-2] == 'A' && sentence[i-3] == 'C')
75     {
76         care++;
77     }
78 }
79
80 }
81
82
83 //printing the generated output
84 std::cout << std::left << std::setw(30) << std::setfill('.') << "No.of words" << std::right << words + 1 << std::endl;
85 std::cout << std::left << std::setw(30) << std::setfill('.') << "No. of uppercase letters" << std::right << uppercase << std::endl;
86 std::cout << std::left << std::setw(30) << std::setfill('.') << "No. of lowercase letters" << std::right << lowercase << std::endl;
87 std::cout << std::left << std::setw(30) << std::setfill('.') << "No.of "
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    vowels" << std::right << vowels << std::endl;
88    std::cout << std::left << std::setw(30) << std::setfill('.') << "No.  ↗
    of substring CARE" << std::right << care << std::endl;
89
90    return 0;
91 }
92
93
94
95
96
97
98
99
100
101
102
103
104
105
```