

1859. Sorting the Sentence

A sentence is a list of words that are separated by a single space with no leading or trailing spaces. Each word consists of lowercase and uppercase English letters.

A sentence can be shuffled by appending the 1-indexed word position to each word then rearranging the words in the sentence.

For example, the sentence "This is a sentence" can be shuffled as "sentence4 a3 is2 This1" or "is2 sentence4 This1 a3".

Given a shuffled sentence *s* containing no more than 9 words, reconstruct and return the original sentence.

Example 1:

Input: *s* = "is2 sentence4 This1 a3"

Output: "This is a sentence"

Explanation: Sort the words in *s* to their original positions "This1 is2 a3 sentence4", then remove the numbers.

Example 2:

Input: *s* = "Myself2 Me1 I4 and3"

Output: "Me Myself and I"

Explanation: Sort the words in *s* to their original positions "Me1 Myself2 and3 I4", then remove the numbers.

Constraints:

$2 \leq s.length \leq 200$

s consists of lowercase and uppercase English letters, spaces, and digits from 1 to 9. The number of words in *s* is between 1 and 9.

The words in *s* are separated by a single space.

s contains no leading or trailing spaces.

```
1  class Solution {
2  public:
3      string sortSentence(string s) {
4
5          string str, my_s;
6          int words = 1;
7          int s_length = s.length();
8
9
10         stringstream ss(s);
11
12         for (size_t i = 0; i < s_length; i++)
13         {
14             if(s[i] == ' '){
15                 words++;
16             }
17         }
18
19         string my_array[words];
20
21         while (getline(ss, str, ' ')) {
22             my_array[int(str.back()) - 49] = str.substr(0, str.size()-1);
23         }
24
25         for (auto value : my_array)
26         {
27             my_s.append(value).append(" ");
28         }
29
30         return my_s.substr(0, my_s.size()-1);
31
32     }
33
34 };
```

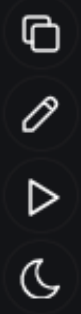
Sources:

<https://www.geeksforgeeks.org/cpp-program-for-char-to-int-conversion/>

If a numeric character needs to be typecasted into the integer value then either we can subtract 48 or '0' and then typecast the numeric character into int.

Below is the C++ program to convert char to integer value using typecasting:

C++



```
// C++ program to convert
// char to int (integer value) using typecasting
#include <iostream>
using namespace std;

// Driver code
int main()
{
    char ch = '5';

    // Subtracting 48 will produce desired results
    cout << int(ch) - 48 << "\n";

    // Also subtracting '0' will result in same output
    cout << int(ch - '0');
    return 0;
}

// This code is contributed by Susobhan Akhuli
```

<https://www.digitalocean.com/community/tutorials/string-concatenation-in-c-plus-plus>

3. The `append()` Method for String Concatenation in C++

C++ has another built-in method: **`append()`** to concatenate strings. The `append()` method can be used to add strings together. It takes a string as a parameter and adds it to the end of the other string object.

Syntax:

```
string1.append(string2);
```

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Example:

```
#include <bits/stdc++.h>
using namespace std;

int main()
{   string str1="", str2="";

    cout<<"Enter String 1:\n";
    cin>>str1;
    cout<<"Enter String 2:\n";
    cin>>str2;

    str1.append(str2);
    cout<<"Concatenated String:"<<endl;
    cout<<str1;
    return 0;
}
```

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<https://stackoverflow.com/questions/2310939/remove-last-character-from-c-string>



For a non-mutating version:

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```
st = myString.substr(0, myString.size()-1);
```



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answered Feb 22, 2010 at 12:59



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292k ● 49 ● 462 ● 737

5) Using std::getline() Function

Another method to split strings in C++ is by using the std::getline() function. This function reads a string from an input stream until a delimiter character is encountered. Just as we take the input from the user using getline() function, similarly we will take the input into the stringstream using getline() function.

Syntax:

```
getline(string, token, delimiter);
```

Here, the token saves the extracted string tokens from the original string. Below is the C++ program implementation:

```
// Welcome to favtutor
#include <bits/stdc++.h>
using namespace std;

int main() {
    string s, str;

    s = "I love to read articles on Favtutor.";

    // ss is an object of stringstream that references the S string.
    stringstream ss(s);

    // Use while loop to check the getline() function condition.
    while (getline(ss, str, ' '))
        // `str` is used to store the token string while ' ' whitespace is used as the del
        cout << str << endl;

    return 0;
}
```

Output:

```
I
love
to
read
articles
on
Favtutor.
```