GeeksforGeeks

stringstream in C++ and its applications

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A stringstream associates a string object with a stream allowing you to read from the string as if it were a stream (like cin).

Basic methods are –

clear() — to clear the stream

str() — to get and set string object whose content is present in stream.

operator << — add a string to the stringstream object.

operator >> — read something from the stringstream object,

stringstream class is extremely useful in parsing input.

Applications :

1. **Count number of words in a string**

```
Examples:
Input : Asipu Pawan Kumar
Output : 3
```

```
        Input : Geeks For Geeks Ide
        Output : 4


        // CPP program to count words in a string
        // using stringstream.
        #include <bits/stdc++.h>
        using namespace std;

        int countWords(string str)
        {
            // breaking input into word using string stream
            stringstream s(str); // Used for breaking words
            string word; // to store individual words

            int count = 0;
            while (s >> word)
                count++;
            return count;
        }

        // Driver code
        int main()
        {
            string s = "geeks for geeks geeks "
                        "contribution placements";
            cout << " Number of words are: " << countWords(s);
            return 0;
        }
```

Output:

```
    Number of words are: 6
```

2. **Print frequencies of individual words in a string**

```
    Input : Geeks For Geeks Quiz Geeks Quiz Practice Practice
    Output : For -> 1
             Geeks -> 3
             Practice -> 2
             Quiz -> 2

    Input : Word String Frequency String
    Output : Frequency -> 1
             String -> 2
             Word -> 1
```

```cpp
// CPP program to demonstrate use of stringstream
// to count frequencies of words.
#include <bits/stdc++.h>
using namespace std;

void printFrequency(string st)
{
    // each word it mapped to it's frequency
    map<string, int> FW;
    stringstream ss(st); // Used for breaking words
    string Word; // To store individual words

    while (ss >> Word)
        FW[Word]++;

    map<string, int>::iterator m;
    for (m = FW.begin(); m != FW.end(); m++)
        cout << m->first << " -> "
             << m->second << "\n";
}

// Driver code
int main()
{
    string s = "Geeks For Geeks Ide";
    printFrequency(s);
    return 0;
}
```

Output:

```
For -> 1
Geeks -> 2
Ide -> 1
```

3. Removing spaces from a string using Stringstream
4. Converting Strings to Numbers in C/C++

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Reference to a pointer in C++ with examples and applications

Sum of indices of Characters removed to obtain an Empty String based on given conditions

Count of distinct Strings possible by swapping prefixes of pairs of Strings from the Array

Search strings with the help of given pattern in an Array of strings

Find value after N operations to remove N characters of string S with given constraints

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