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stringstream in C++ and its applications

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

int countWords(string str)
```

```cpp
{
    // 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++)
```

```cpp
            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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