

## 394. Decode String

Question Editorial Solution

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- Total Accepted: **3534**
- Total Submissions: **9146**
- Difficulty: **Medium**

Given an encoded string, return it's decoded string.

The encoding rule is:  $k[\text{encoded\_string}]$ , where the *encoded\_string* inside the square brackets is being repeated exactly  $k$  times. Note that  $k$  is guaranteed to be a positive integer.

You may assume that the input string is always valid; No extra white spaces, square brackets are well-formed, etc.

Furthermore, you may assume that the original data does not contain any digits and that digits are only for those repeat numbers,  $k$ . For example, there won't be input like 3a or 2[4].

**Examples:**

$s = "3[a]2[bc]"$ , return "aaabcbc".

$s = "3[a2[c]]"$ , return "accaccacc".

$s = "2[abc]3[cd]ef"$ , return "abccabccddcdcdcd".

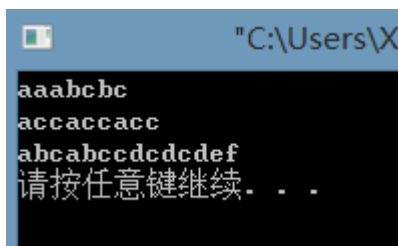
```
#include<sstream>
#include<iostream>
#include<algorithm>
#include<string>
#include<vector>
#include<map>
#include<stdio.h>
using namespace std;
//author demonmikalish
string decodeString(string s,int &pos)
{
    string result;
    int num=0;
    for(;pos<s.size();pos++)
    {
        char c = s[pos];
        if(s[pos]=='[')
        {
            string curStr = decodeString(s,++pos);
            for(;num>0;num--)
                result += curStr;
        }else if (s[pos]>='0' && s[pos]<='9')
        {
            num = num*10 + (s[pos] - '0');
        }
    }
    result += s.substr(pos);
    return result;
}
```

```

        num = num*10 + (int)c- (int)'0';
    }else if (s[pos]=='')
    {
        return result;
    }else{
        result+=c;
    }
}
return result;
}

int main(int argc,char *argv[])
{
    string test = "3[a]2[bc]";
    string test2= "3[a2[c]]";
    string test3= "2[abc]3[cd]ef";
    int pos = 0;
    string ans = decodeString(test,pos);
    pos=0;
    string ans2 = decodeString(test2,pos);
    pos=0;
    string ans3 = decodeString(test3,pos);
    cout<<ans<<endl;
    cout<<ans2<<endl;
    cout<<ans3<<endl;
    return 0;
}

```



```

"C:\Users\X
aaabcbc
accaccacc
abcabccdcddcdef
请按任意键继续. . .

```