**字符串数组的最长公共前缀**

string longestCommonPrefix(vector<string>& strs) {

if (strs.empty())

return "";

int n = strs.size();

string maxPre = strs[0];

for (int i = 1; i < n; ++i)

{

string s = strs[i];

int j = 0;

while (j < min(maxPre.size(), s.size()) && maxPre[j] == s[j])

++j;

maxPre = maxPre.substr(0, j);

}

return maxPre;

}

电话号码的字符组合

vector<string> letterCombinations(string digits) {

if (digits.empty())

return{};

vector<string> res;

string charmap[10] = { "", "", "abc", "def", "ghi", "jkl", "mno", "pqrs", "tuv", "wxyz" };

res.push\_back("");

for (int i = 0; i < digits.size(); i++)

{

vector<string> tempres;

string chars = charmap[digits[i] - '0'];

for (int c = 0; c < chars.size(); c++)

for (int j = 0; j < res.size(); j++)

tempres.push\_back(res[j] + chars[c]);

res = tempres;

}

return res;

}

**合法括号对**

bool isValid(string s) {

stack<char> st;

for (char c : s)

{

switch (c) {

case '(':

case '{':

case '[': st.push(c); break;

case ')': if (st.empty() || st.top() != '(') return false; else st.pop(); break;

case '}': if (st.empty() || st.top() != '{') return false; else st.pop(); break;

case ']': if (st.empty() || st.top() != '[') return false; else st.pop(); break;

default:; // pass

}

}

return st.empty();

}

**最长合法的括号对**

int longestValidParentheses(string s) {

stack<int> st;

st.push(-1);

int maxL = 0;

for (int i = 0; i < s.size(); ++i)

{

int t = st.top();

if (t != -1 && s[t] == '(' && s[i] == ')')

{

st.pop();

maxL = max(maxL, i - st.top());

}

else

st.push(i);

}

return maxL;

}

**字符串大数相乘**

string multiply(string num1, string num2) {

int n1 = num1.size();

int n2 = num2.size();

vector<int> re(n1 + n2, 0);

reverse(num1);

reverse(num2);

for (int i = 0; i < n1; ++i)

for (int j = 0; j < n2; ++j)

re[i + j] += (num1[i] - '0')\*(num2[j] - '0');

for (int i = 0; i < n1 + n2 - 1; ++i)

{

re[i + 1] += re[i] / 10;

re[i] %= 10;

}

string s;

for (int i = n1 + n2 - 1; i >= 0; --i)

s += re[i] + '0';

//去除前导0

int k = 0;

while (k < s.size() && s[k] == '0') k++;

if (k == s.size())

return "0";

return s.substr(k, s.size() - k);

}

void reverse(string &s)

{

int i = 0;

int j = s.size() - 1;

while (i < j)

swap(s[i++], s[j--]);

}

**两个字符串的编辑距离（相似度）**

int minDistance(string word1, string word2) {

int m = word1.size();

int n = word2.size();

vector<vector<int>> dp(m + 1, vector<int>(n + 1));

for (int i = 0; i <= m; i++)

dp[i][0] = i;

for (int j = 0; j <= n; j++)

dp[0][j] = j;

for (int i = 1; i <= m; i++)

{

for (int j = 1; j <= n; j++)

{

if ((word1[i - 1] == word2[j - 1]))

dp[i][j] = dp[i - 1][j - 1];

else

{

int Ins = dp[i][j - 1] + 1;

int Del = dp[i - 1][j] + 1;

int Rep = dp[i - 1][j - 1] + 1;

dp[i][j] = min(min(Ins, Del), Rep);

}

}

}

return dp[m][n];

}

**翻转句子**

“The sky is blue” 变成 “blue is sky The”。

void reverseWords(string &s) {

if (s.empty())

return;

reverse(s, 0, s.size() - 1); //先翻转整个句子

string res("");

string t;

istringstream is(s);

while (getline(is, t, ' ')) {

reverse(t, 0, t.size() - 1); //再翻转每个单词

if (t != "")

res += " ";

res += t;

}

if (!res.empty())

res = res.substr(1);

s.swap(res);

}

void reverse(string &s, int start, int end)

{

while (start < end)

swap(s[start++], s[end--]);

}