Lecture 9 Strings

1. <https://leetcode.com/problems/roman-to-integer/>

class Solution {

int val(char c)

{

if(c=='I')

{

return 1;

}

else if(c=='V')

{

return 5;

}

else if(c=='X')

{

return 10;

}

else if(c=='L')

{

return 50;

}

else if(c=='C')

{

return 100;

}

else if(c=='D')

{

return 500;

}

else

{

return 1000;

}

}

public:

int romanToInt(string s) {

int n = s.size();

int res = 0;

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

{

int s1 = val(s[i]);

if(i+1 < n)

{

int s2 = val(s[i+1]);

if(s1 >= s2)

{

res += s1;

}

else

{

res += s2-s1;

i++;

}

}

else

{

res += s1;

}

}

return res;

}

};

1. <https://practice.geeksforgeeks.org/problems/implement-atoi/1#>

int atoi(string str)

{

//Your code here

int i = 0;

int n = str.size();

int result = 0;

int sign = 1;

if(str[0]=='-')

{

sign = -1;

i++;

}

while(str[i]!='\0')

{

if(!(str[i]-'0' >=0 && str[i]-'0' <= 9))

{

return -1;

}

result = result \* 10 + str[i] - '0';

i++;

}

return result \* sign;

}

1. <https://leetcode.com/problems/reverse-vowels-of-a-string/>

class Solution {

bool isVowel(char c)

{

return c!='a' && c!='e' && c!='i' && c!='o' && c!='u' && c!='A' && c!='E' && c!='I' && c!='O' && c!='U';

}

public:

string reverseVowels(string s) {

int n = s.size();

int i = 0;

int j = n-1;

while(i<j)

{

if(isVowel(s[i]))

{

i++;

continue;

}

if(isVowel(s[j]))

{

j--;

continue;

}

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

i++;

j--;

}

return s;

}

};

1. <https://leetcode.com/problems/longest-common-prefix/>

class Solution {

public:

string longestCommonPrefix(vector<string>& strs) {

string ans;

int n = strs.size();

if(n==0)

{

return "";

}

int count = INT\_MAX;

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

{

if(count > strs[i].size())

{

count = strs[i].size();

}

}

char current;

for(int i=0; i<count; i++) // length of smallest string

{

current = strs[0][i];

for(int j=1; j<n; j++) // total n strings

{

if(strs[j][i]!=current)

{

return ans;

}

}

ans.push\_back(current);

}

return ans;

}

};