

Input: s = "lEetcOde"

s = leetcode eoe
 eeeo
 leetcdo

S1: Rahul
 = Rahalu
 aua
 auu

A-Z
a-z

A ≠ a
 ↓ ↓
 65 97
 -

A E I O U < a e i o u

LEetcode
 EeOe
 ans - EOee
LEOetcede

- (i) Select vowels
- (ii) Sort vowels
- (iii) Insert the vowels at right place

\Rightarrow LEetcode
 \Rightarrow L##tcd#
 EO e e

vector<int> lower(26,0)

vector<int> upper(26,0)

String s

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

if (s[i] == 'a' || s[i] == 'e' || s[i] == 'i' || s[i] == 'o'

|| s[i] == 'u') {

lower[s[i] - 'a'] ++;

s[i] = '*';

}

else if (s[i] == 'A' || s[i] == 'E' || s[i] == 'I' || s[i]

== 'O' || s[i] == 'U') {

upper[s[i] - 'A'] ++;

s[i] = '*';

}

} O(N)

for (i=0; i<26; i++) { // upper — $O(N)$

char ch = 'A' + i;

while (upper[i]) {

ans += ch;

upper[i] --;

}

3

for (i=0; i<26; i++) {

char ch = 'a' + i;

while (lower[i]) {

ans += ch;

lower[i] --;

}

↑

— $O(N)$

$s = L E e t C O d e$

ans: E O c e
second

while (second < ans.size()) {

if (s[first] == '*') {

s[first] = ans[second];

second++;

}

first++;

}

$s = L * * + C * d *$
first

$L E * + C * d *$
 $L E O + C * d *$

$O(N)$

$\frac{T.M = O(4N)}{S.C = O(N)} = O(N)$

int \rightarrow 32 bit 4 byte
long long \rightarrow 64 bit 8 byte
16 byte

s: " 9 4 6 8 2 4 0 3 9 1 2 4 6 2 8 9 7 4 6 2 8 8 3 2) - - - - -"
= = = = =
String 1000 byte

Bigint \Rightarrow H/W

num 1 = '11' index 1 num 2 = '422'

num 1

num 2

4 2 2 ← index 2

4 3 3

'1' - '0' + '2' - '0' =

1 + 2
3

4 [12]

1 1 1
1 9
4 3 6 → i2
4 5 5

num1 > num2

int index1: num1.size() - 1

int index2: num2.size() - 1

string ans; int carry = 0;

int sum;

while (index2 >= 0) {

sum = (num1[index1] - '0') + (num2[index2] - '0') +
carry;

num1: 4 1 2 6
num2: 3 1 9

sum: 15

Carry

carry = sum/10;

char ch = '0' + sum % 10

ans += ch;

index2--;

index1--;

}

$$\begin{array}{r} 426 \\ + 19 \\ \hline 445 \end{array}$$

544

reverse(ans.begin(),
ans.end())

445

```
while (index >= 0) {  
    sum = num1[index] - '0' + carry;
```

```
    carry = sum/10;
```

```
    char ch = '0' + sum%10;
```

```
    ans += ch;
```

```
    index--;
```

```
}
```

```
if (carry)
```

```
    ans += '1';
```

```
reverse(ans.begin(), ans.end())
```

```
return ans;
```

```
  9949  
+ 326  
-----  
10275
```


