

Valid Anagram

s = anagram \Rightarrow nagaram ✓

t = rat \Rightarrow cat ✗
↓
strings

[a, n, a, g, r, a, m]
↓ ↓ ↓ ↓ ↓ ↓
↓ ↓ ↓ ↓ ↓ ↓

↳ same size

↳ identical letters

Algo Divide & Conquer

A1: Brute Force

$$\text{sort}(s) == \text{sort}(t)$$

↓
True

TC: Quick Sort
→ $(n \log n)$

A2: Bucket Array

s		t
A	1st + 1st	-1 -1
B		
C		
i		

Sum = 0

↓

G	+1	-1
:		
M	+1	-1
N	+1	-1
R	+1 2nd	-1

✓
Anagrams

Code:

$S = S.toLowerCase();$

$t = t.toLowerCase();$

- bucket;

// Strip white space

s = s.replace(" ", "");

t = t.replace(" ", "");

// bucket array

vector<int> counts(26)

// Filling the bucket

```
for (int i=0; i<s.size(); i++)  
{  
    counts[s.charAt(i)-'a']++;  
}
```

// Empty the bucket

```
for (int i=0; i<t.size(); i++)  
{ counts[t.charAt(i)-'a']--;  
}
```

```
for (int count : counts)
{
    if (count != 0)
    {
        return false;
    }
}
return true;
```