

### 1180. Count Substrings with Only One Distinct Letter

We will use a dict to record all number of keys. Then we will add all possible combinations to result. TC is  $O(n)$

from collections import defaultdict

class Solution:

```
def countLetters(self, S: str) -> int:
    memo = defaultdict(int)
    count = 1
    result = 0
    for idx in range(1, len(S)):
        if S[idx - 1] == S[idx]:
            count += 1
        else:
            memo[count] += 1
            count = 1
    memo[count] += 1
    for key, val in memo.items():
        result += (key + 1) * key // 2 * val
    return result
```

### 1134. Armstrong Number

We will add all digits of numbers and compare with the original number. TC is  $O(\text{len}(n))$

class Solution:

```
def isArmstrong(self, N: int) -> bool:
    num_str = str(N)
    length = len(num_str)
    result = 0
    for i in num_str:
        result += (ord(i) - ord('0')) ** length
    return result == N
```

### 938. Range Sum of BST

We will iterate all nodes and add all values that are in  $[L, R]$ , and then keep recuring branches within this interval. TC is  $O(n)$

class Solution:

```
def rangeSumBST(self, root: TreeNode, L: int, R: int) -> int:
    self.result = 0
    self.helper(root, L, R)
    return self.result
```

```
def helper(self, root, L, R):
    if root:
        if L <= root.val <= R:
```

```
self.result += root.val
if root.val <= L:
    self.helper(root.right, L, R)
elif root.val >= R:
    self.helper(root.left, L, R)
else:
    self.helper(root.right, L, R)
    self.helper(root.left, L, R)
```

## 709. To Lower Case

We will transform uppercase to lower if this letter is in upper case. TC is  $O(n)$

```
class Solution:
```

```
def toLowerCase(self, str: str) -> str:
    result = ""
    for c in str:
        if 65 <= ord(c) <= 90:
            result += chr(ord(c) + 32)
        else:
            result += c
    return result
```

### 804. Unique Morse Code Words

We will use a set to add all words' code and return len(set). TC is  $O(n)$

class Solution:

```
def uniqueMorseRepresentations(self, words: List[str]) -> int:
    arr = [".-", "-...", "-.-.", "...", ".--", "--..", "....", "-.--", "...-", "--...", "-.-.-", "-.--.", "--.-", ".-.-.", "-.-", "-..", "-..."]
    memo = set()
    for word in words:
        key = ""
        for e in word:
            key += arr[ord(e) - ord('a')]
        memo.add(key)
    return len(memo)
```