Could you please tell me the process of arriving at the time complexity of the following problem:

```
int count = 0;
    for (int i = N; i > 0; i /= 2) {
       for (int j = 0; j < i; j++) {
          count += 1;
       }
    }
```

findKthFromEnd - in window solution we can avoid first loop by using temp int like this.

```
int temp =0;
        while(current != null){
            current = current.next;
            if(temp++ >= k)
                kthNode = kthNode.next;
        }
```

sir,

0.) While we have (Sequential)ArrayList , why language is still supporting 1D Array ?
1.)In Recursive thinking problems , analysis of algorithms(Time & Space Complexity) should be done before we code or after we code ?(In the problem of tower of Hanoi , you have analysed after coding)
2.)The recursive tree can be built based on code or intuition ?
Kindly answer sir,
Thanks in advance sir !!

Hello sir,

0.) This is regarding the Longest root to leaf path in BT problem: please explain why static shared data(global max) is not correct for multi threaded solution.
1.) Why/How it is said that there will be interference between the threads in the above case.

For 1st question in the assignment of Adhoc thinking, Given a string, you need to reverse the order of characters in each word within a sentence while still preserving whitespace and initial word order.

My code is:

```
def reverseWords(self, s: str) -> str:
    li = []
    for i in s.split():
      li.append(i[::-1])
    return " ".join(li)
```

In leetcode, it shows that 37 % of other solutions are faster than my code. Can you please help me on how to reduce the time and memory complexity of this question

sir, How to write optimized code for "Given a string s and a non-empty string p, find all the start indices of p's anagrams in s. Strings consists of lowercase English letters only and the length of both strings s and p will not be larger than 20,100. The order of output does not matter."
Example: Input: s: "cbaebabacd" p: "abc" . My naive approach is working, but unable to reduce the time complexity.

Sir, In Binary search section, Overflow bug in binary search videos are coded in java. Can you please code them in python

Hi Sir,

i tried with some values to sort with median of 3 pivot selection quick sort , i couldn't be able to get sorted output

Sir, in adhoc-thinking assignment - reverse words - can we use in-built reverse method of string builder/buffer? Or it beats the whole purpose of this adhoc-thinking?

While doing the assignments for adhoc thinking (Assignments-Github-Link), all I could think of is to check "if there is an in-built method for getting the desired intermediate output".

To elaborate, for example for assignment problem **Reverse Words in a String** I came up with this solution: (utilizing Java's StringBuilder class)

```
String[] words = sentence.split(" ");
StringBuilder stringBuilder = new StringBuilder();
for (int i = 0; i < words.length; i++) {
    StringBuilder builder = new StringBuilder(words[i]);
    stringBuilder.append(builder.reverse().toString());
    if (i < words.length - 1) {
        stringBuilder.append(" ");
    }
}
return stringBuilder.toString();
```

To give another example for the problem **Find All Anagrams in a String,** the following is what I got

```
char[] inputAnagramChars = p.toCharArray();
Arrays.sort(inputAnagramChars);
for (int i = 0; i <= s.length(); i+= inputAnagramChars.length) {
    String substring;
    if (i + p.length() < s.length()) {
        substring = s.substring(i, i + p.length());
    } else {
        substring = s.substring(i);
    }
    char[] charsToCheck = substring.toCharArray();
    Arrays.sort(charsToCheck);
    if (Arrays.equals(charsToCheck, inputAnagramChars)) {
        System.out.println("Anagram found at index: " + i);
    }
}
```

Problem3: Merge sorted arrays:

```
System.arraycopy(nums2, 0, nums1, m, n);
Arrays.sort(nums1);
```

On the whole all that I am able to think of right now is if there is an in-built method that can be utilized to get intermediate results to gain the actual/desired output or not. (RAN these in leet-code and able to get an Accepted answer in less time).

But what I wanted to know Is this thinking process fine or Do I need to improve on my approach towards the given problem? Please suggest. (Also let me know if this email is not the right channel to post these questions).