Lec-27

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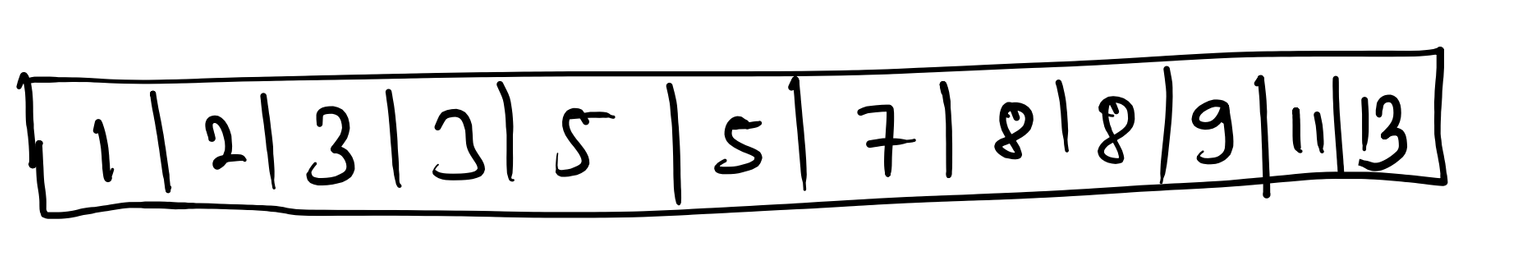
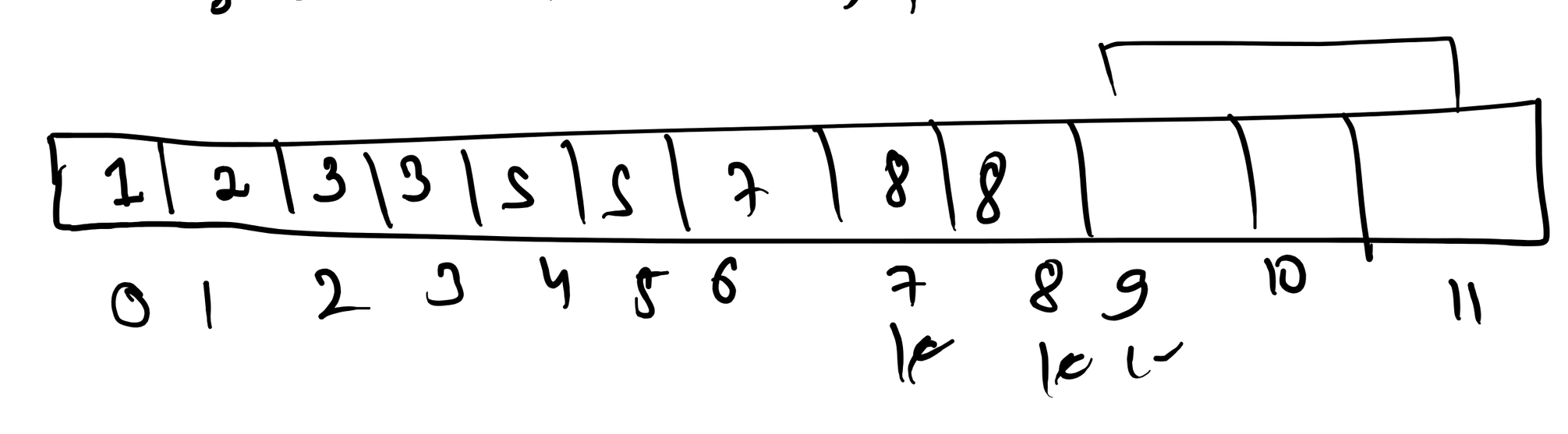
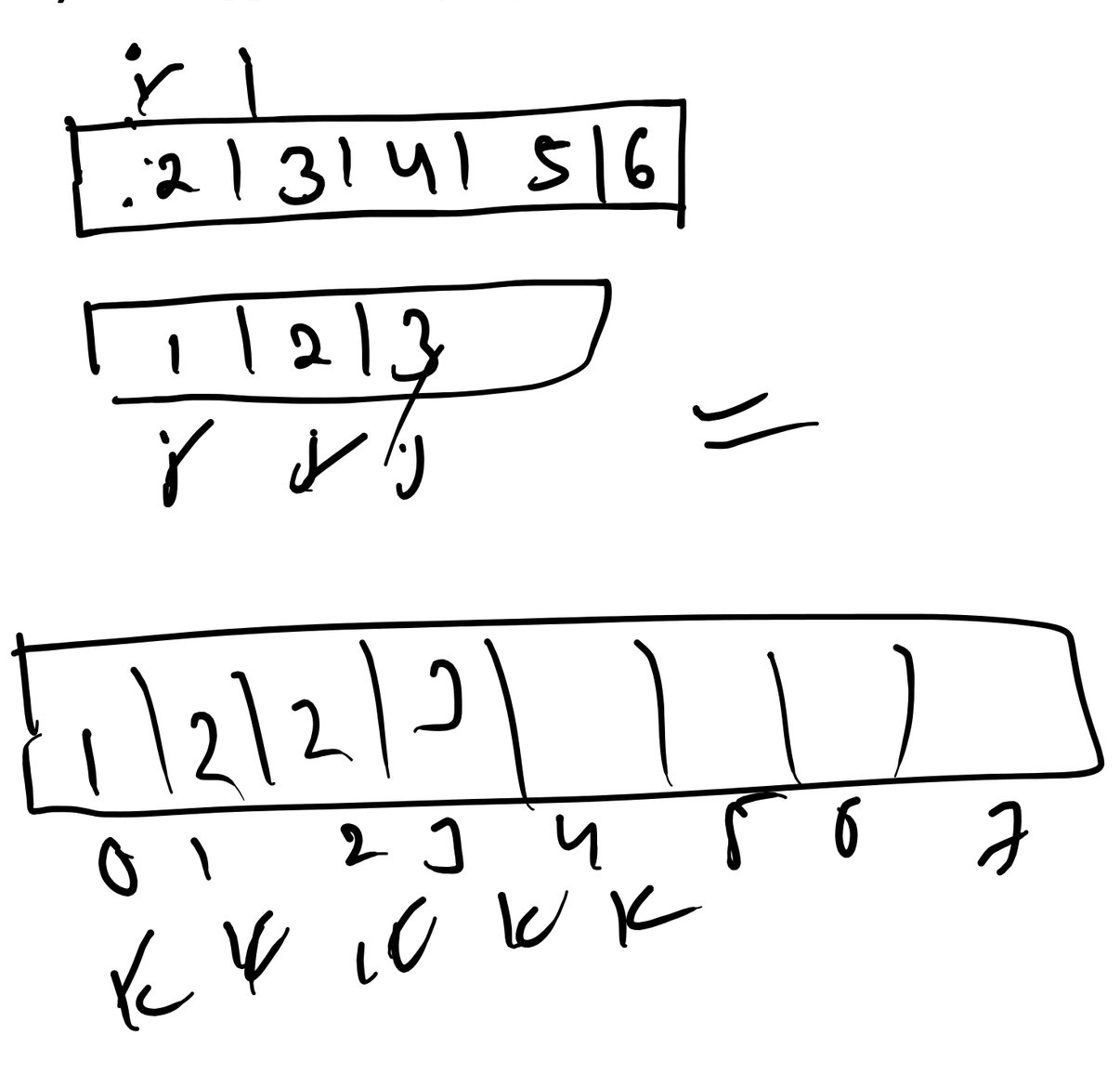
```java
int[] arr1 = { 2, 3, 5, 7, 8 };

int[] arr2 = { 1, 3, 5, 8, 9, 11, 13 };
```

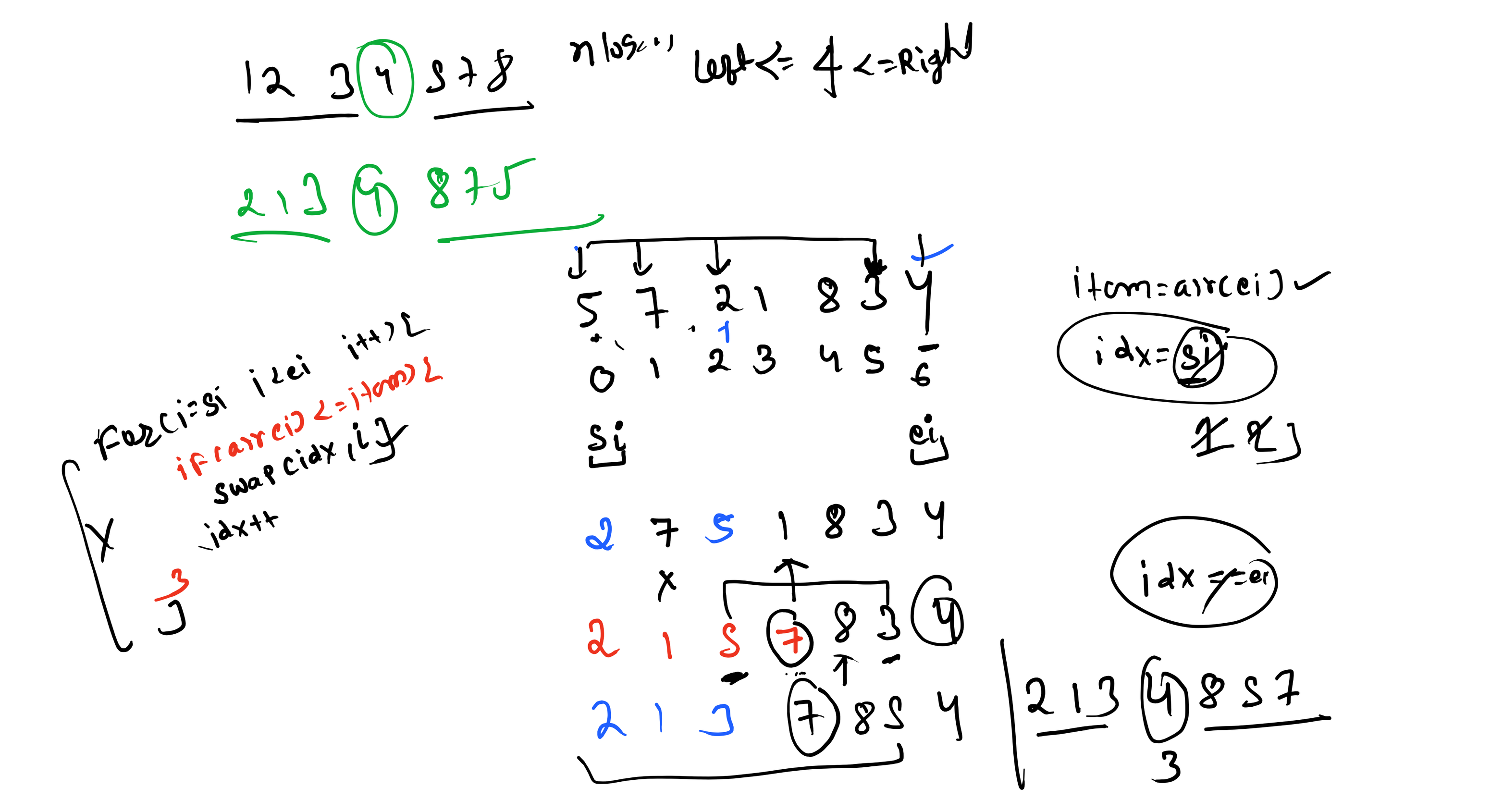


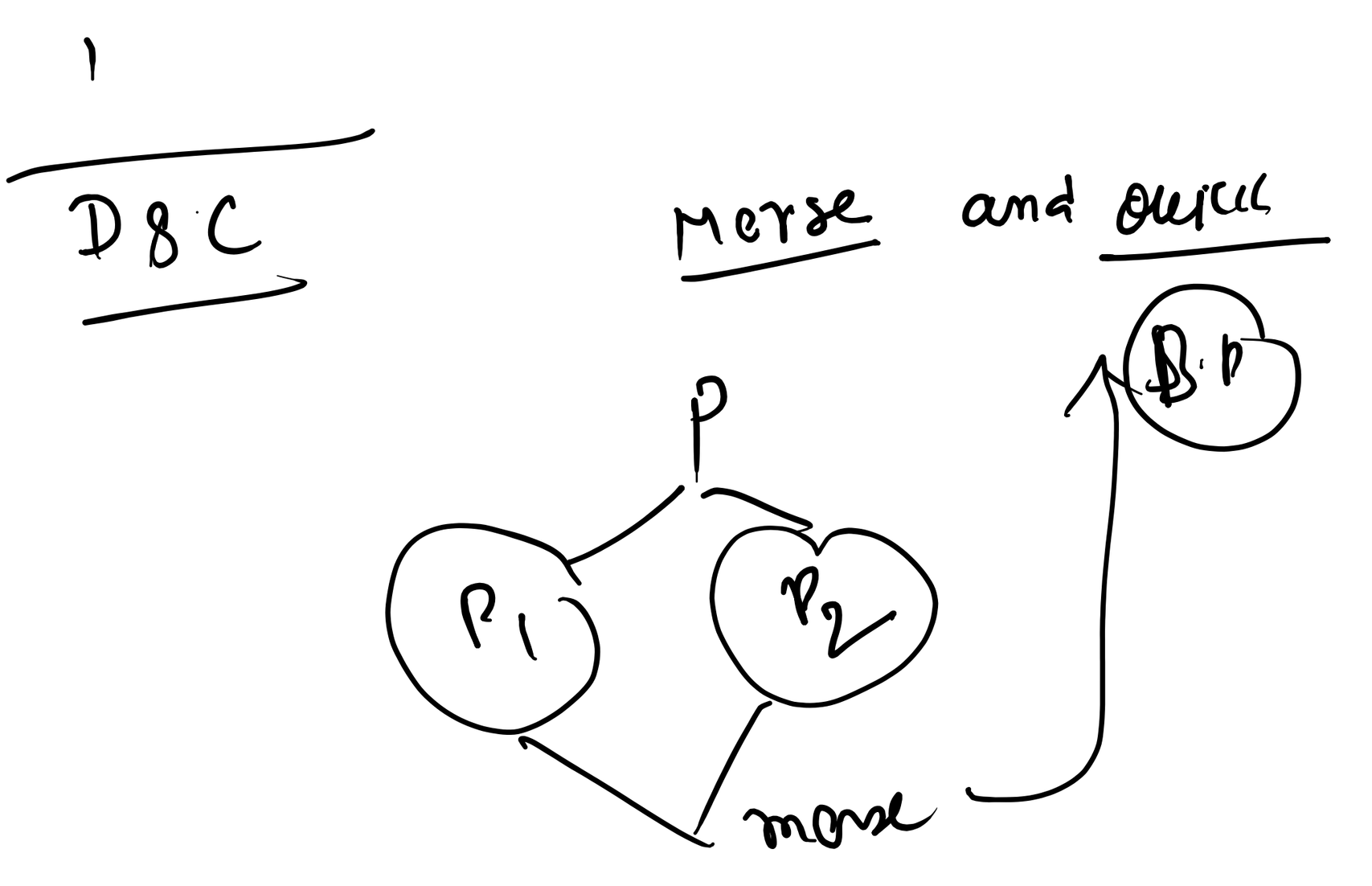


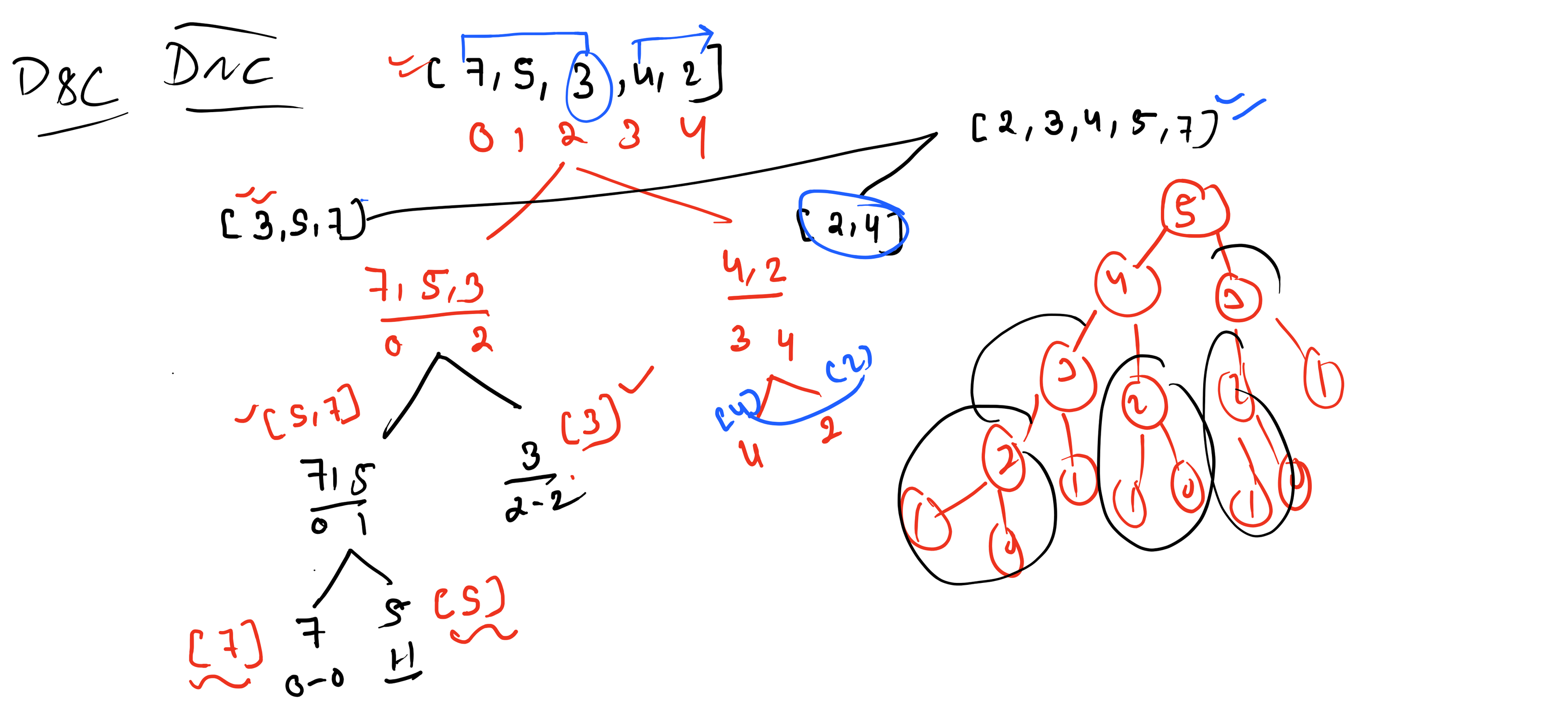
```java
public static int[] Merge_Two_Array(int[] arr1, int[] arr2) {
        int n = arr1.length;
        int m = arr2.length;
        int[] ans = new int[n + m];
        int i = 0, j = 0, k = 0;
        while (i < n && j < m) {
            if (arr1[i] < arr2[j]) {
                ans[k] = arr1[i];
                k++;
                i++;
            }
            else {
                ans[k] = arr2[j];
                k++;
                j++;
            }
        }

    }
```



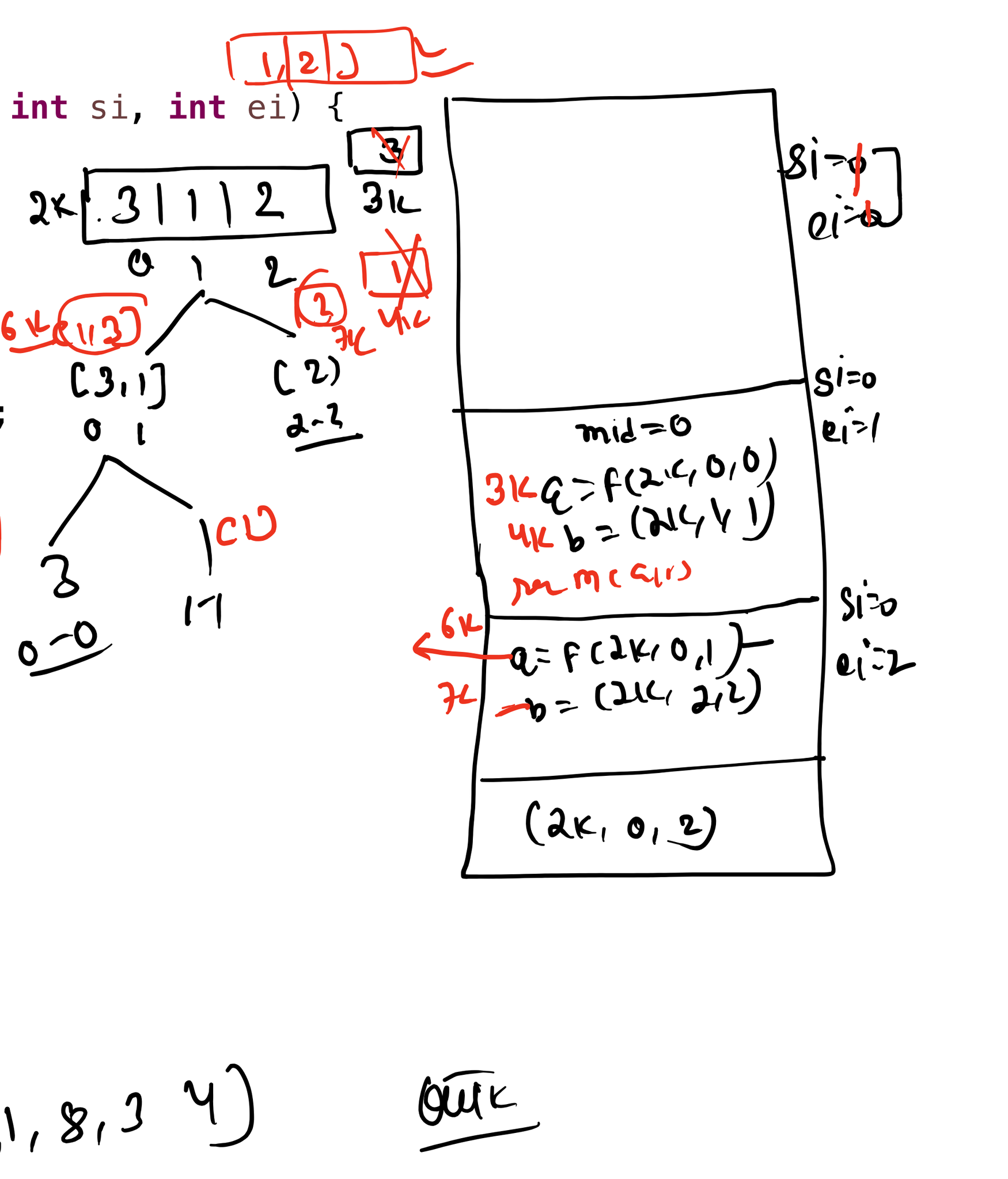
```java
int[] arr = { 5, 7, 2, 1, 8, 3, 4 };
```

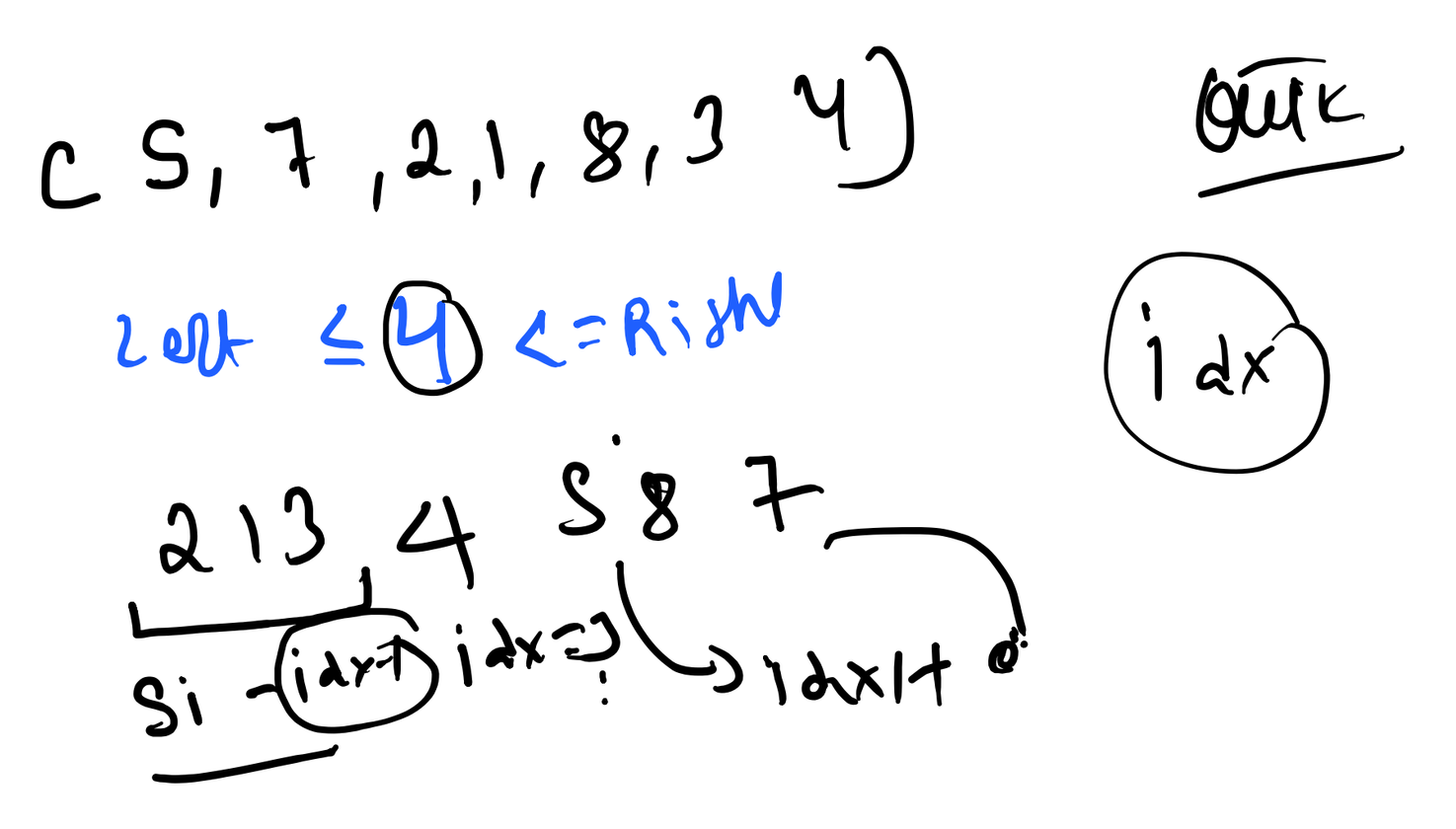




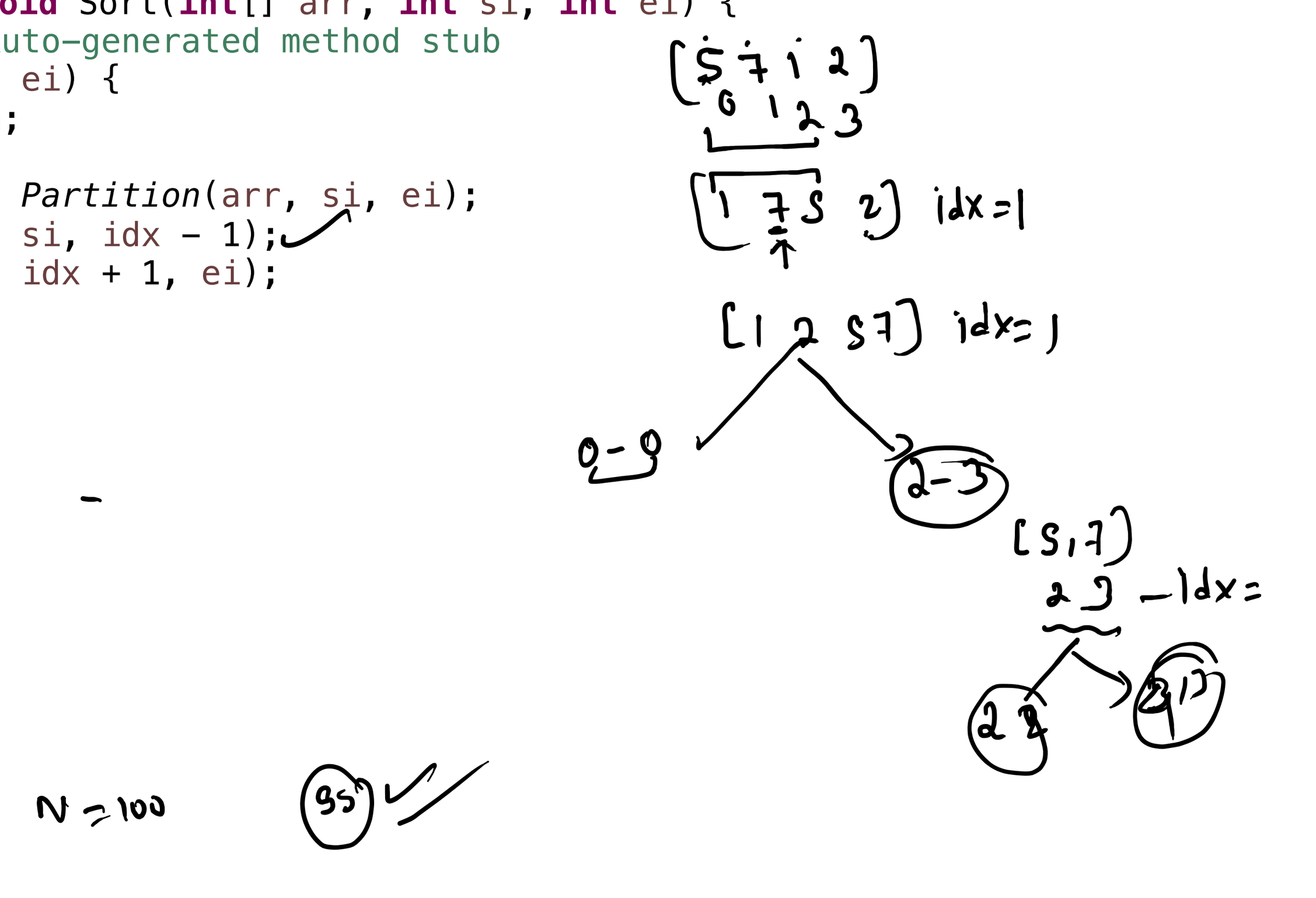


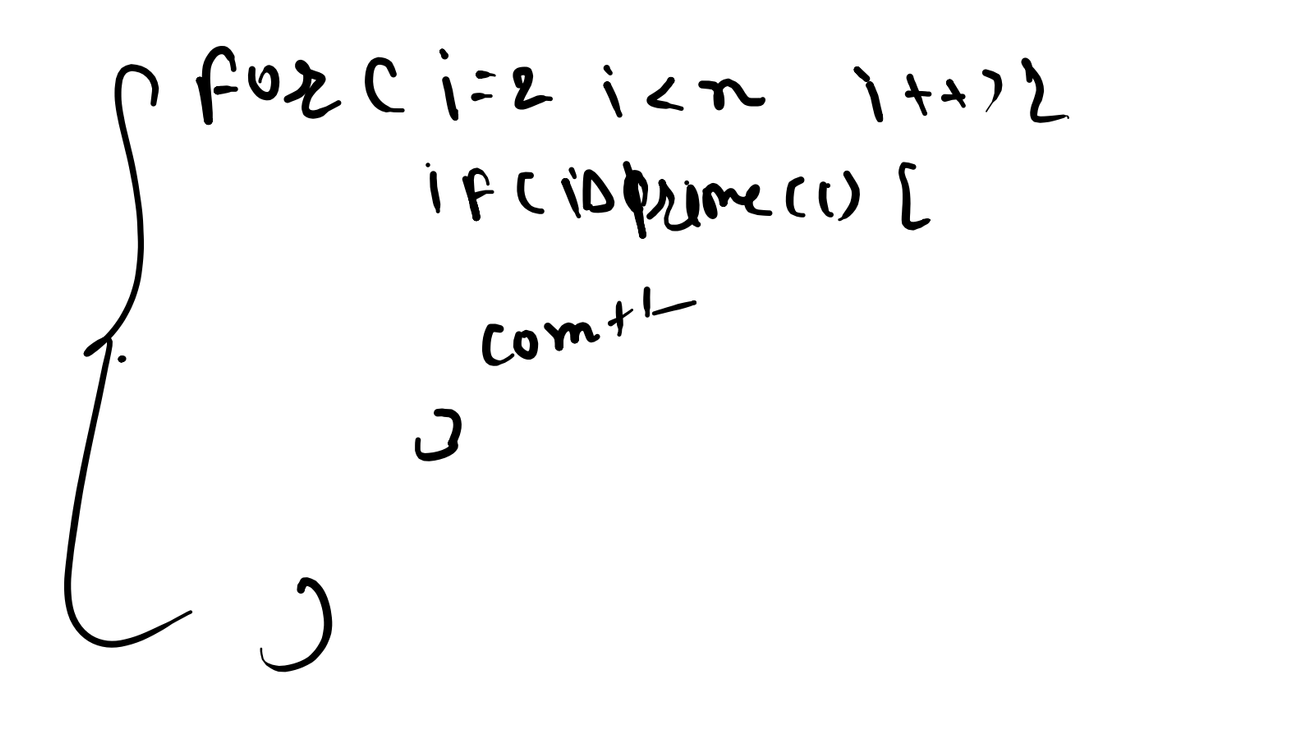
```java
public static int[] Sort(int[] arr, int si, int ei) {
    if (si == ei) {
        int[] bs = new int[1];
        bs[0]=arr[si];
        return bs;
    }
    int mid = (si + ei) / 2;
    int[] a = Sort(arr, si, mid);
    int[] b = Sort(arr, mid + 1, ei);
    return Merge_Two_Array(a, b);

}
```

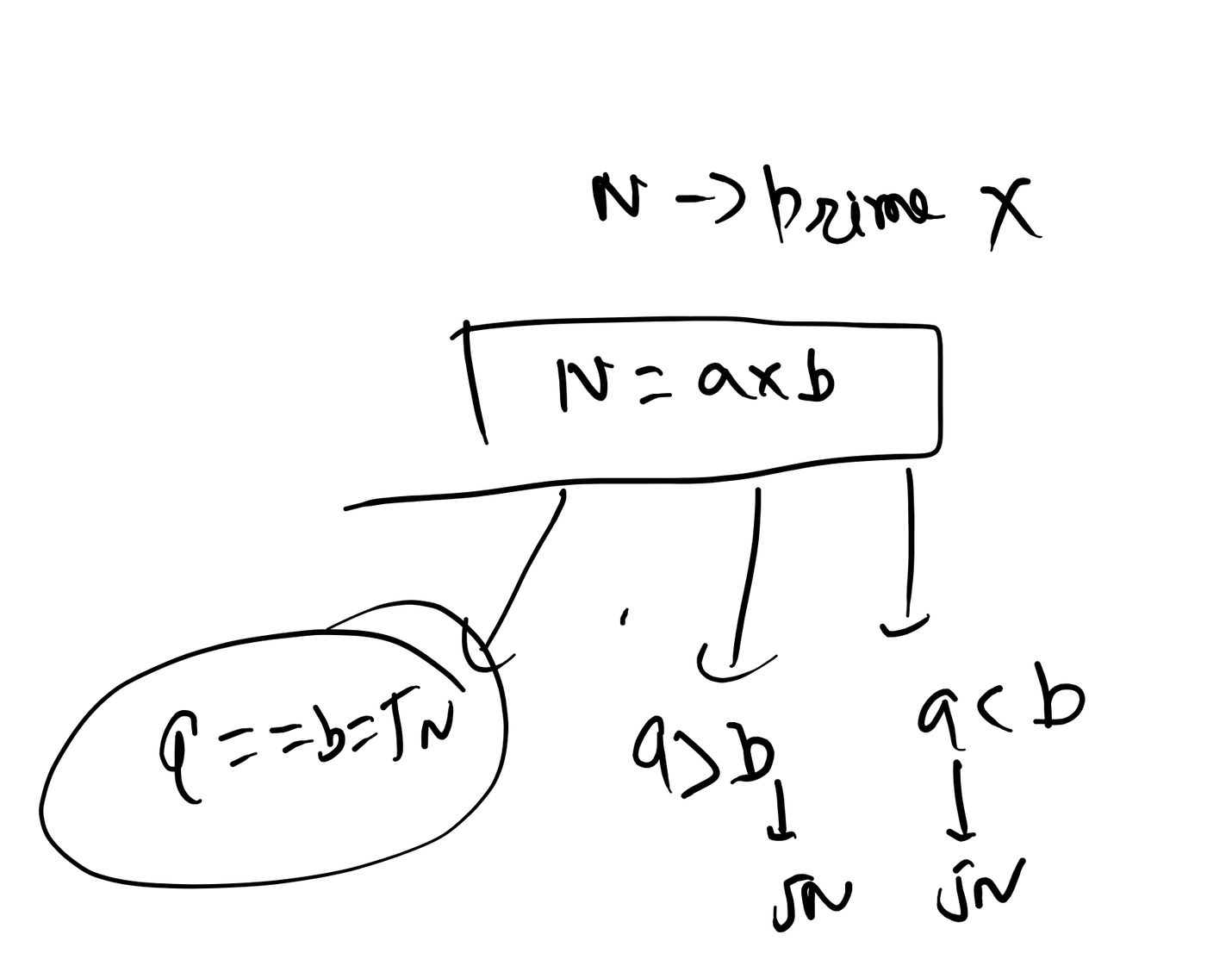




```java
public static void Sort(int[] arr, int si, int ei) {
        // TODO Auto-generated method stub
        if (si >= ei) {
            return;
        }
        int idx = Partition(arr, si, ei);
        Sort(arr, si, idx - 1);
        Sort(arr, idx + 1, ei);

    }
```







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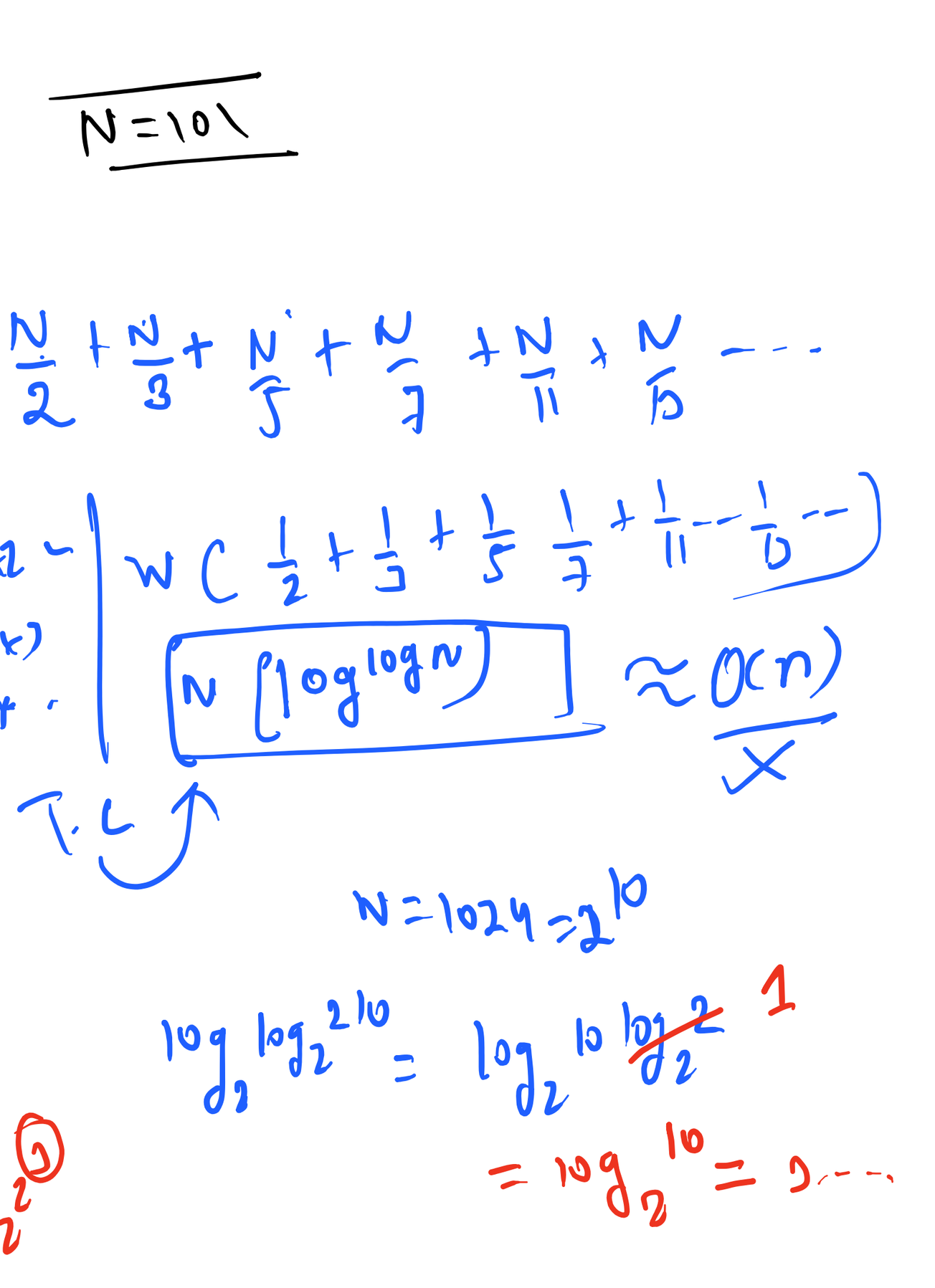

```java
public static int PrimeSieve(int n) {
        int[] ans = new int[n];
        ans[0] = ans[1] = 1;
        for (int i = 2; i * i <= ans.length; i++) {
            if (ans[i] == 0) {// i prime hai
                for (int j = 2; i * j < ans.length; j++) {
                    ans[i * j] = 1;
                }
            }
        }

    }
```