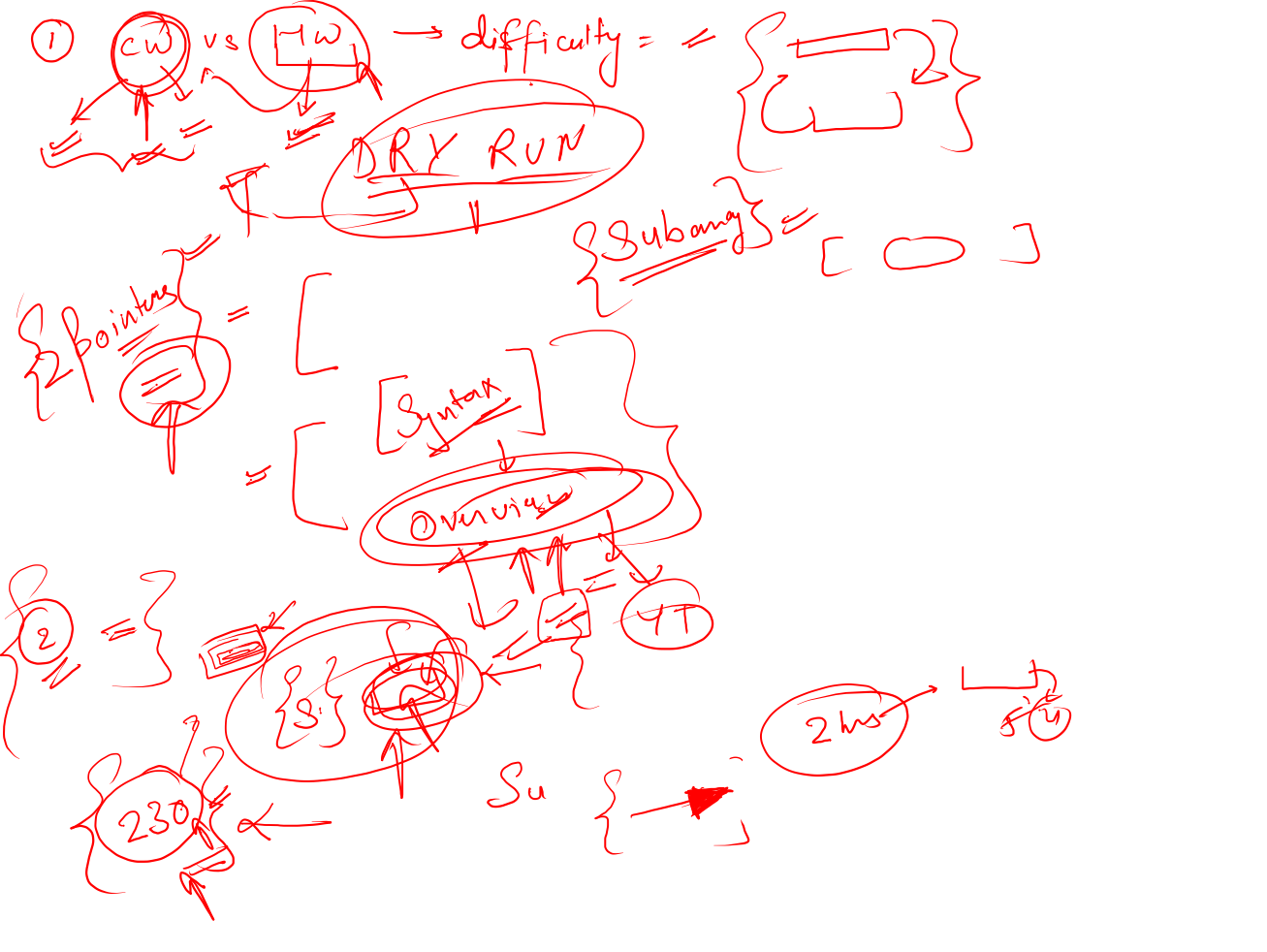
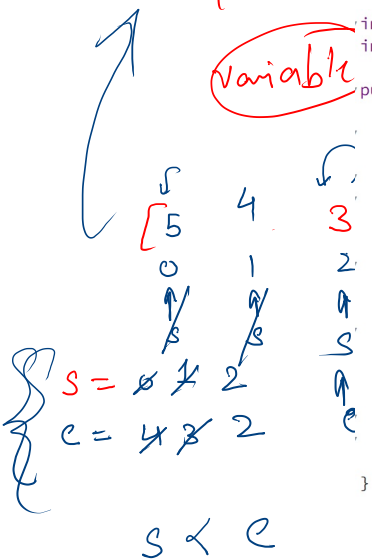

1
CW
vs
HW
→ difficulty = =
DRY RUN
Subarray
2 pointers
Syntax
Variables
YT
2
S
230
Su
2 hrs

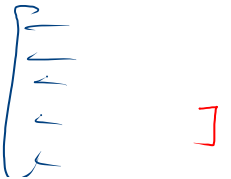
Anand Reddy 8|9

Overview

Two pointers

variable





```java
import java.io.*;
import java.util.*;

public class Solution {

    public static void main(String[] args) {
        int a = 5;
        int[] b = {5};
        System.out.println(a + " " + b[0]);
        change(a);
        changeTwo(b);
        System.out.println(a + " " + b[0]);
    }

    public static void change(int a) {
        a ++;
    }

    public static void changeTwo(int[] b) {
        b[0] ++;
    }
}
```

```java
public class Solution {

    public static void main(String[] args) {
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        int[] b = {5};
        System.out.println(a + " " + b[0]);
        change(a);
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    }

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    }

    public static void changeTwo(int[] b) {
        b[0] ++;
    }
}
```
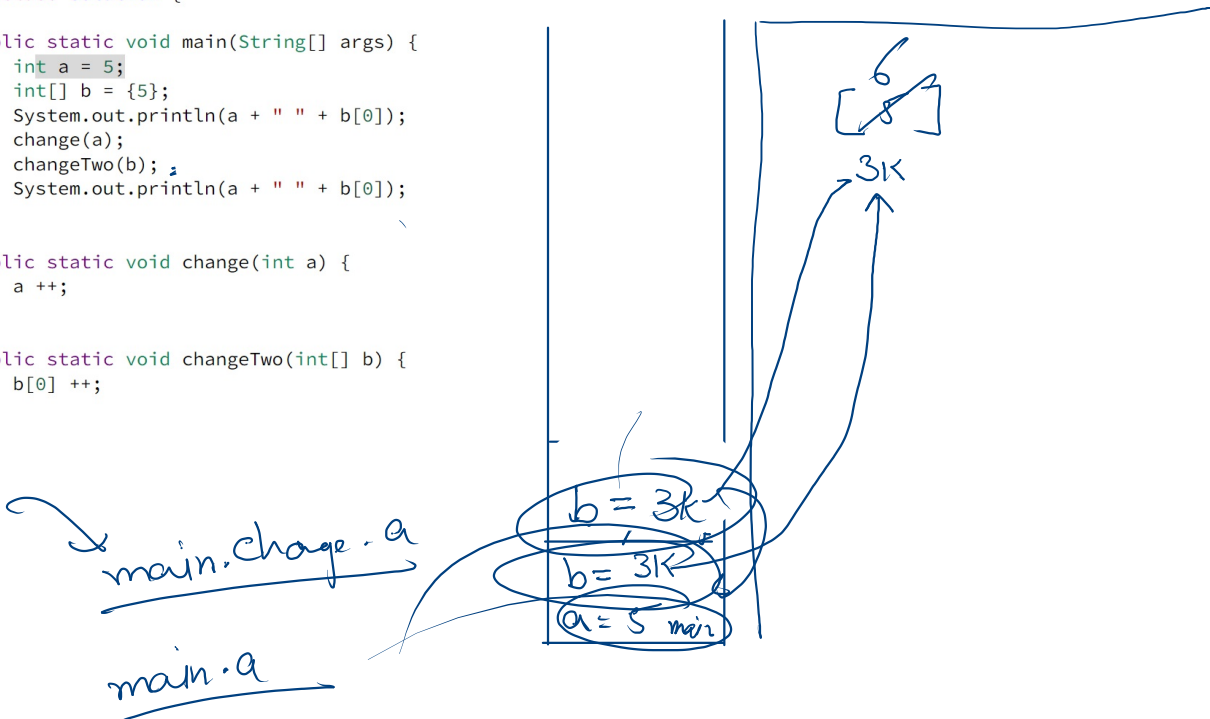
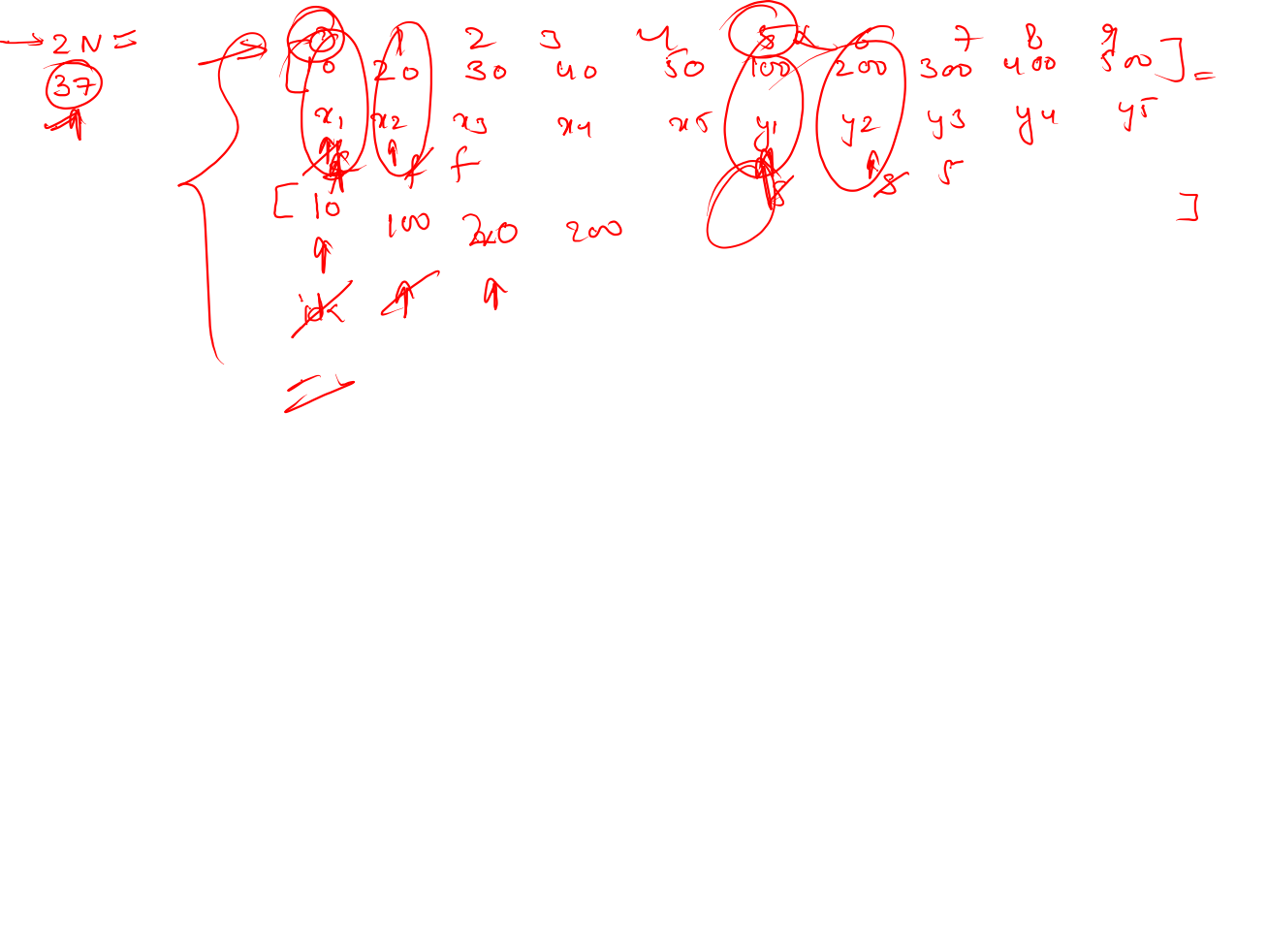




2N =
37
0 20 30 40 50 100 200 300 400 500
x1 x2 x3 x4 x5 y1 y2 y3 y4 y5
10 100 200 200

```java
public static int[] interleaving(int[] arr) {
    int n = arr.length, f = 0, s = n / 2, idx = 0;
    int[] ans = new int[n];
    while(idx < n) {
        ans[idx ++] = arr[f ++];
        ans[idx ++] = arr[s ++];
    }
    return ans;
}
```

1

10

0 1 2 3 4 5 6 7 8 9

[1, 2, 3, 4, 5, 10, 20, 30, 40, 50]

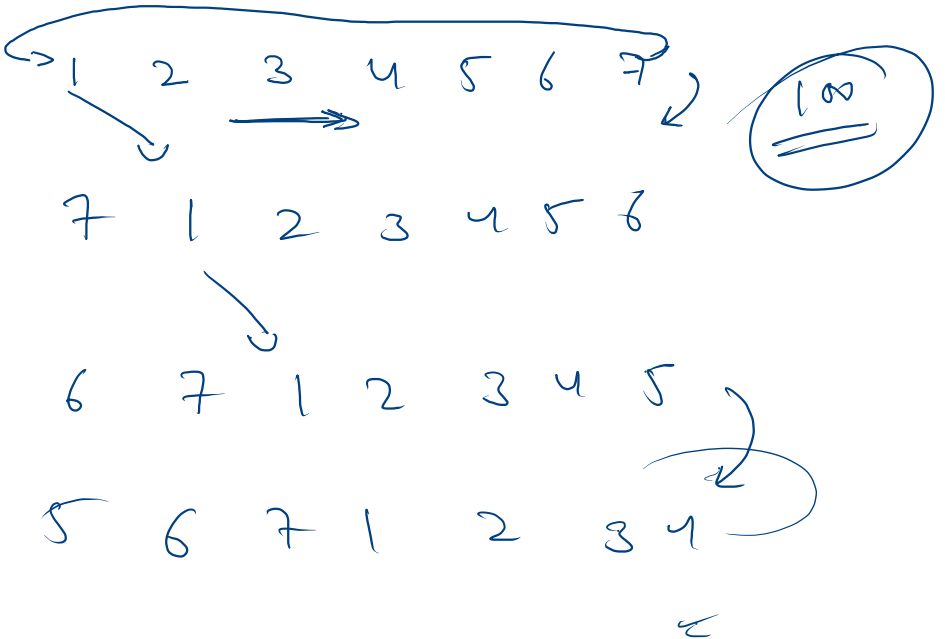
[1 10 2 20

n = 10

f = 0 1 2

s = 5 6 7

idx = 0 1 2 3 4


1 2 3 4 5 6 7
10
7 1 2 3 4 5 6
6 7 1 2 3 4 5
5 6 7 1 2 3 4

K = 0	1	2	3	4	5
K = 1	5	1	2	3	4
K = 2	4	5	1	2	3
K = 3	3	4	5	1	2
K = 4	2	3	4	5	1
K = 5	1	2	3	4	5
K = 6	5	1	2	3	4
K = 7	4	5	1	2	3
K = 8	3	4	5	1	2
K = 9	2	3	4	5	1
K = 10	1	2	3	4	5

K = 2

K → 0 to n-1

→ n

%

n % k

6 ≈ 1 turn

100888 % 5 → 3

8 % 5 → 3

8 = 5 + 3

K = 0 → 1 2 3 4 5

K = 1 = 5 1 2 3 4

K = 2 = 4 5 1 2 3 =

K = 3 = 3 4 5 1 2

K = 4 2 3 4 5 1

K = 5 1 2 3 4 5

K = 6

K = 7

K = 2 =

5) 5 (1
5
= 0

(1+2) % n

Brute

5 % 5

6 % 5

1
5) 6 (
5
1

1
5) 8 (
5
3

1+2

7088 8 % 5

$[1\ 2\ 3\ 4\ 5]$ $K=2=$ $3+2=5$ %.5

$=[4\ 5\ 1\ 2\ 3]=$

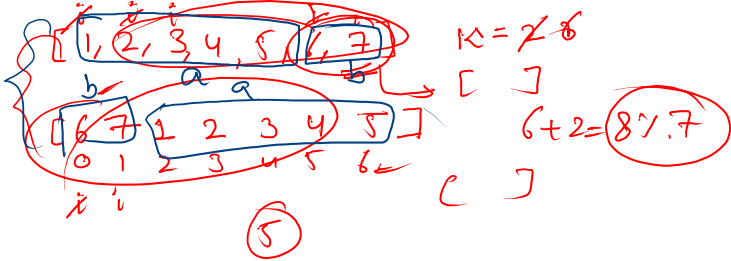
0 1 2 3 4

$G(n)$

$(4+2)$ % 5

G % 5 $=1$

```java
public static int[] rotate(int[] arr, int k) {
    int n = arr.length;
    int[] ans = new int[n];
    for(int i = 0; i < n; i ++) {
        int idx = (i + k) % n;
        ans[idx] = arr[i];
    }
    return ans;
}
```



O(n-1) ≈ O(n)

i = 0

idx = 2

(1+2)%7

3%7

2%7

6-7=

(5+2)%7

7%7

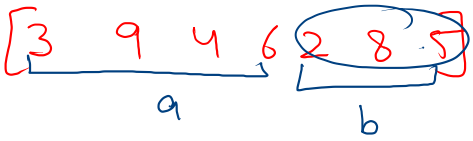
7) 2 (0

0

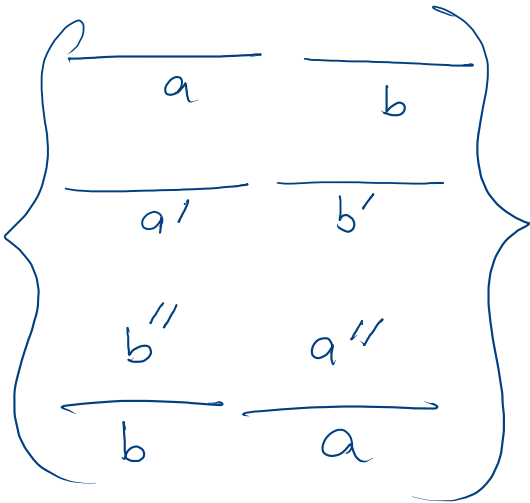
2

{PRO SANNI SIR OP}

ALL HAIL SANNI}

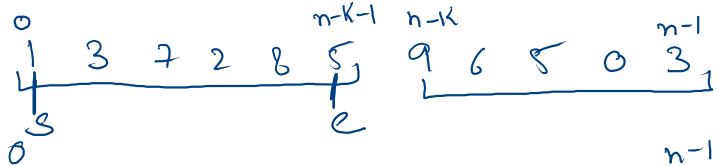


K = 3



6 4 9 3 5 8 2

2 8 5 3 9 4 6



K = 5

[ ]

=

0 to n-k-1

n-k to n-1

0 to n-1

n+n O(2n) ≈ O(n)

O(1)