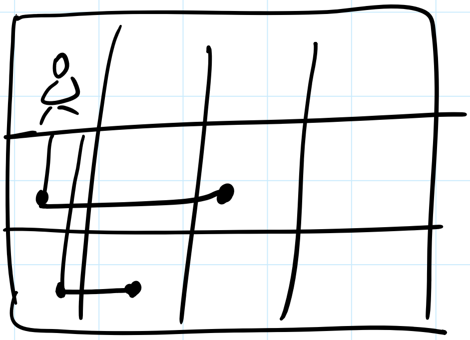
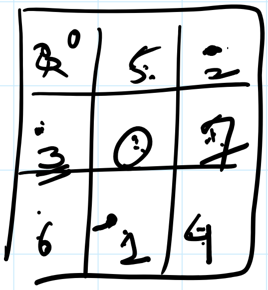
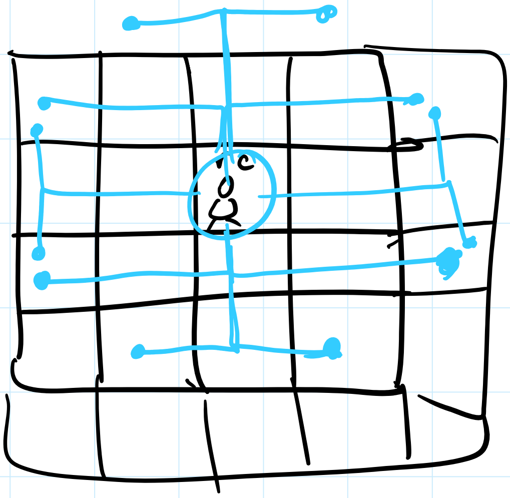
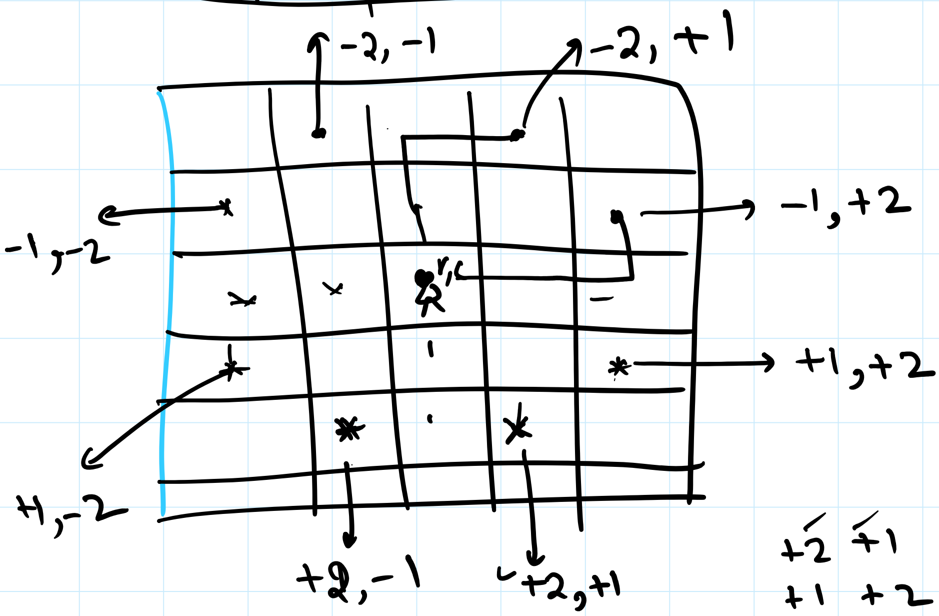
Deepak_Aggarwal(deepak@codingblocks.com)
Tuesday, December 26, 2017 10:38 AM



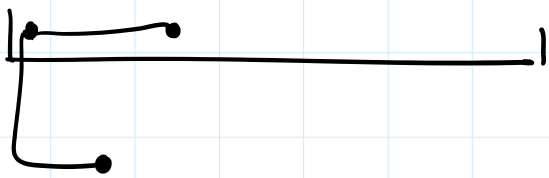
8x8

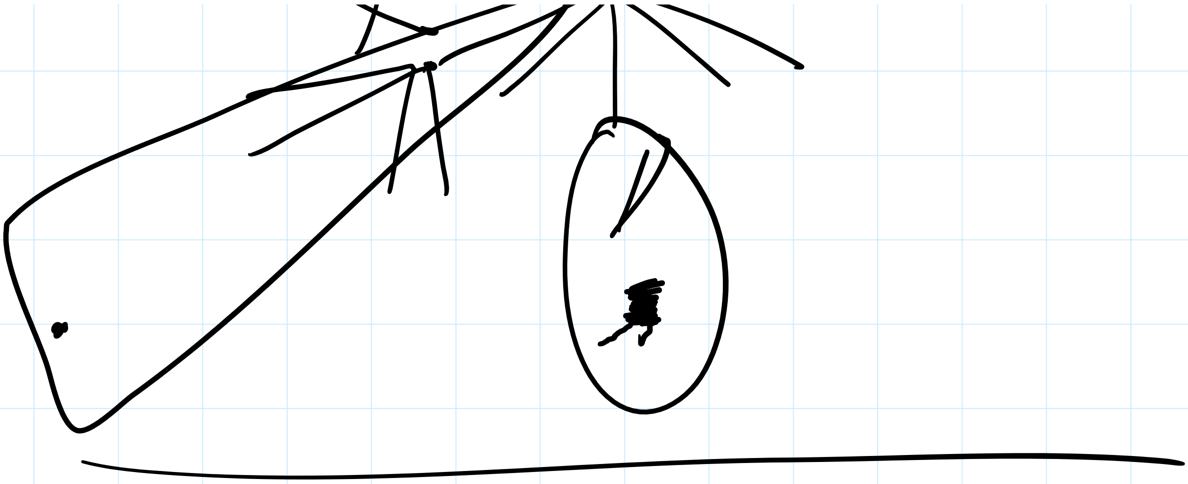






+2	+1	-1	-2	-2	-1	+1	+2
+1	+2	+2	+1	-1	-2	-2	-1





4 3 1 2 5

4 1

4 2

4 3

3 1

3 2

4 3 1 2 5

1 0

1 + 0 +

3 4 1 2 5 0

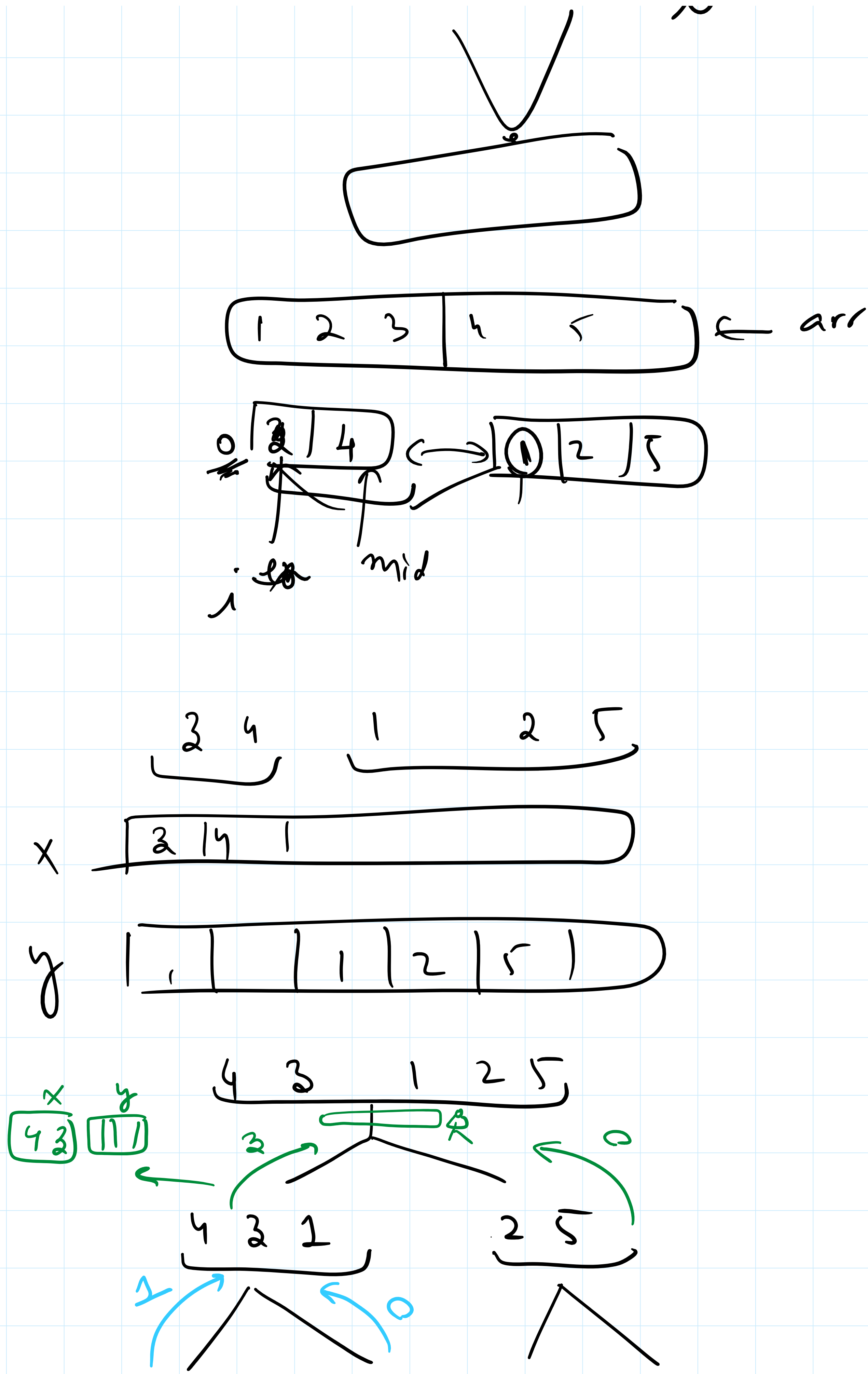
1

1	2	3	4	5
0	1	2	3	4

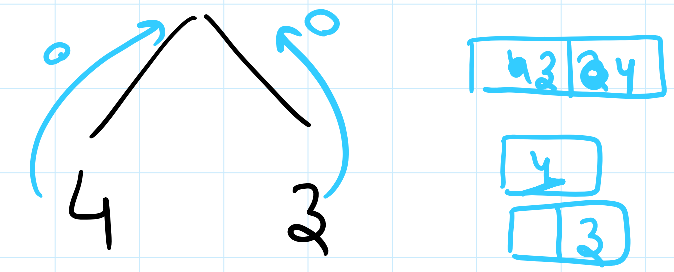
2 + 2

a b c d e f

a b


1 2 3 4 5
arr
3 4
1 2 5
mid
i
3 4 1 2 5
x
3 4 1
y
1 2 5
4 3 1 2 5
4 3 1
2 5

$\rightarrow$ 4 3 1 2 5



$$T(n) = T(n/2) + T(n/2) + n$$

$$T(n) = 2T(n/2) + n$$

$$T(n/2) = 2T(n/4) + n/2$$

$$T(n) = 2\left[2T(n/4) + n/2\right] + n$$

$$= 4T(n/4) + 2\left(\frac{n}{2}\right) + n$$

Gen $= 4T(n/4) + 2n$

After k iter

$$= 2^{k} T(\underbrace{n/2^{k}}) + kn$$

$$\frac{n}{2^k} = 1$$

$$k = \log_2 n$$

$$= 2^{\log_2 n} T(1) + n(\log_2 n)$$

$$= 2^{\log_2 n} T(1) + n(\log_2 n)$$

$$= \boxed{n + n \log_2 n}$$

1 3 5 7 8 10

8

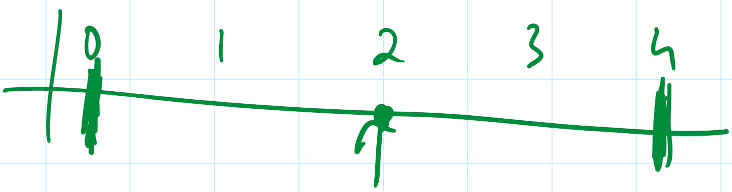
1 2 2 2 2 3 3 3

lowerbound

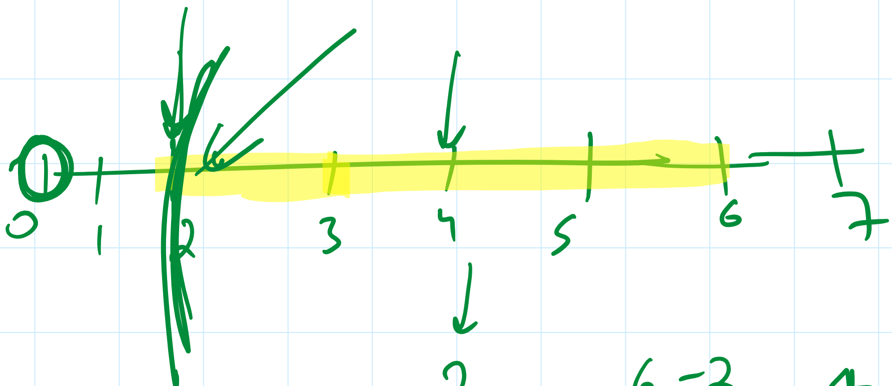
upperbou

8 4 3 7

2



$$\left(\frac{4-0}{2}\right) = 2 \qquad n/2$$



2

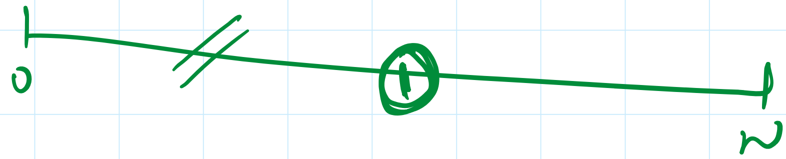
$$\frac{6-2}{2} = \frac{4}{2} = 2$$

100 8

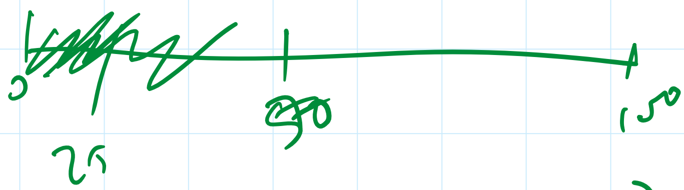
1 x 2 3 4 5 . . . 9 10 11

1 2 3

int



mid·mid > N

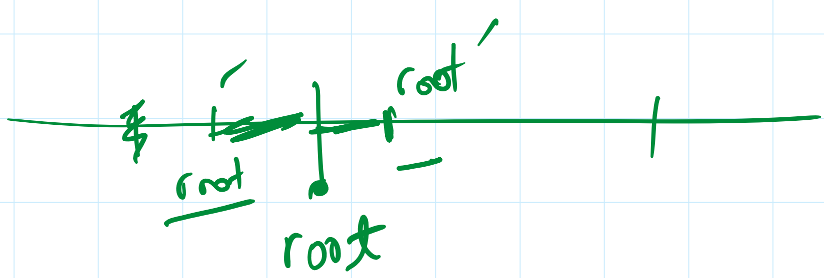


(0+100)/2 = 50.

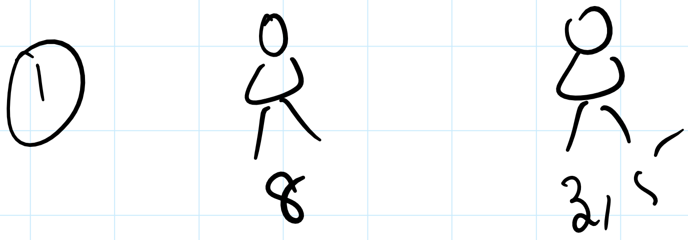
2.313
2.313636

$\frac{10.0}{3.0}$ == 3.333

2.0001
2.0010
0.0009



8 3 5 7 10 | 9 | 2



1 6 4 8

1 2 8 4 5

2

---

1 2 3 → 8

6

1

1 2   1 2

1 2 3

2   3

2 3

~~1~~	2	

3

2 3

1 << 3

$\underline{1\ 2\ 3} = 2^3$

3 2 1

φ ← 000

1 ← 001

2 ← 010

1 2 ← 011

101 → 1 3

110 → 2 3

111 → 1 2 3

1 2 ← 011

3 ← 100

0 01 → 010

1 → 2

→ (0101) % 2

1<<3

0101
& 0001
1

→ 8 5 5 7 2 3 9

qsort

→ 2 3 4 5 8 7 9