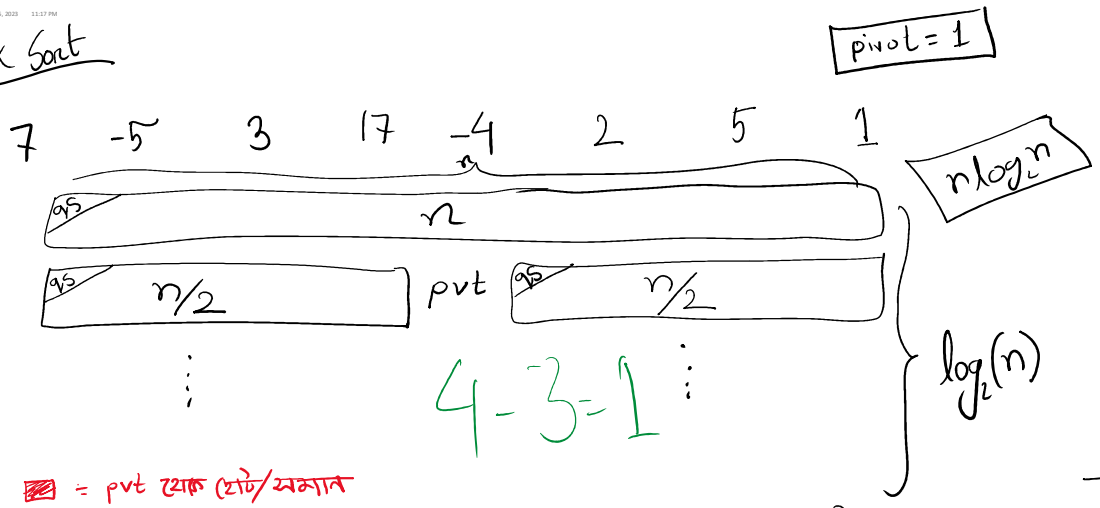
Class 15

Saturday, February 25, 2023 11:17 PM

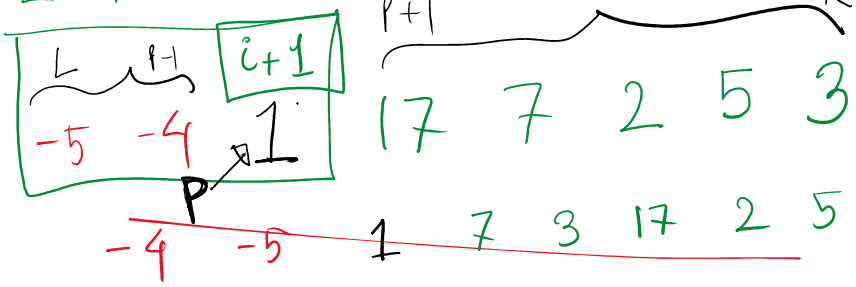
Quick Sort

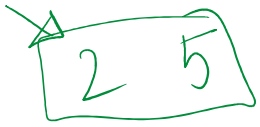



```
void quickSort(vector<
{
→ if(L >= R) return;
→ int p = createPartiti
→ quickSort(arr,L,p
  quickSort(arr,p+
}
```

= pvt থেকে ছোট/সমান

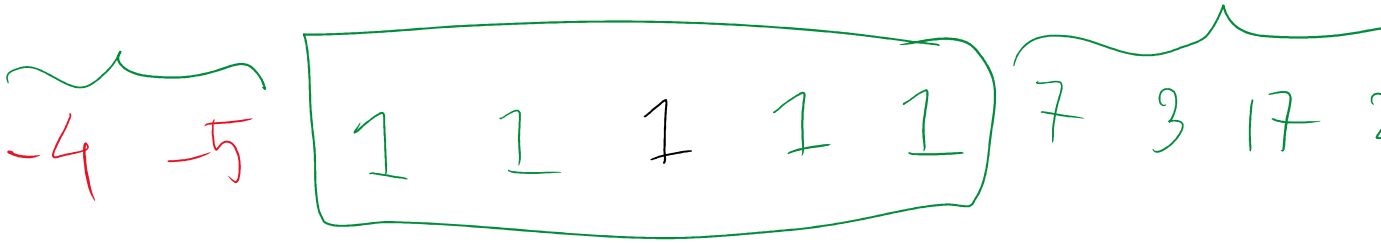
= pvt থেকে বড়





pvt

n=10



$$\frac{n}{1} + \frac{n}{2} + \frac{n}{4} + \frac{n}{8} + \cdots + \frac{n}{n}$$

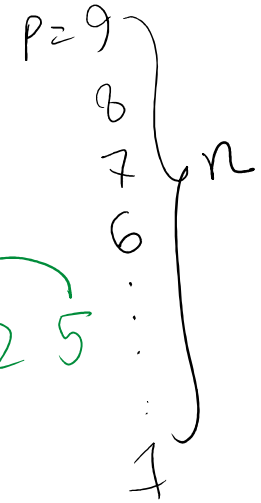
int& arr, int L, int R)

on(arr, L, R);

-1);

1, R)

= 2

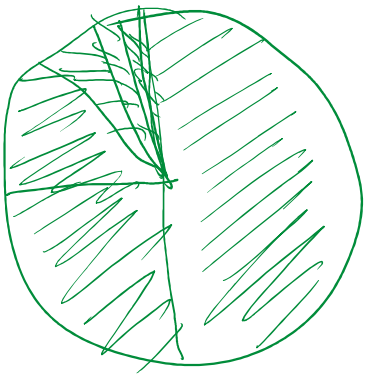


$$\frac{n}{1} + \frac{n}{2} + \frac{n}{4} + \frac{n}{8} + \dots$$

$$= n\left(1 + \frac{1}{2} + \frac{1}{4} + \frac{1}{8} + \dots + \infty\right)$$

$$= 2n$$

$$\simeq O(n)$$



$S_\infty =$

$$= \frac{a}{1-rc}$$

$$= \frac{1}{1-\frac{1}{2}} = \frac{1}{\frac{1}{2}}$$

$$= 2$$