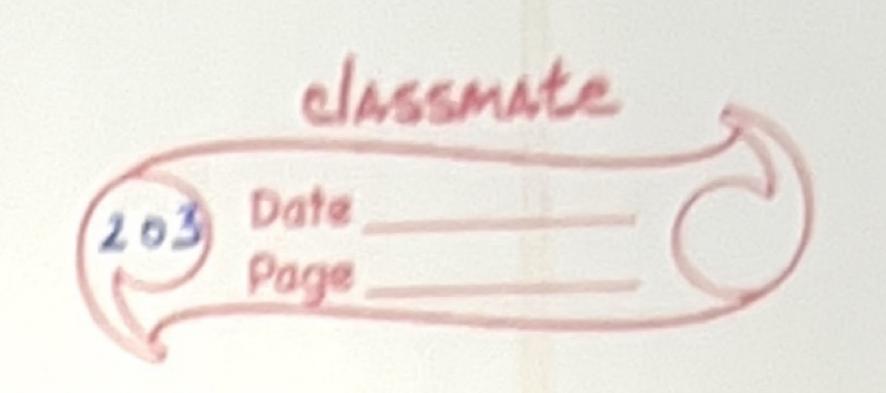1) In binary search loop is run until $s < e$ depending on the condition that whether we are using $s = mid$ or $e = mid$ or $s = mid + 1$ or $e = mid + 1$.

$\left. \begin{array}{l} s = mid; \\ e = mid; \end{array} \right\}$ $s < e$

$\left. \begin{array}{l} s = mid + 1; \\ e = mid - 1; \end{array} \right\}$ $s <= e$

If in case of $s <= e$ in case of $s = mid$ or $e = mid$, then it can go in infinite loop.

2) Complexity of binary search, lower bound & upper bound is $O(\log n)$.

3) Formulae of finding total occurence is the last occurence - first occurence + 1. Complexity of this code will be $O(\log n)$.

4) When we were trying to find the pivot element, there should be no duplicate items/elements.

5) Subarray means small part of an array.

6) The code of pivot which we have written fails in the case when our array is sorted and not rotated. That's why at end we returned s for the case in which only one element is remaining. Check code on Pg 184 & 185.