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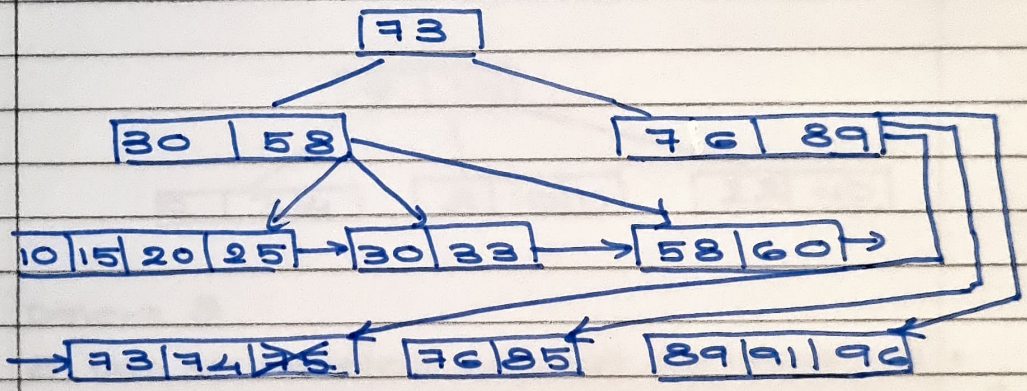
Submission III - Set A

1. B+ tree will show better performance because range queries are handled better in B+ than B trees. The leaf nodes are linked together in B+ trees. All the records are present at the leaf level. Hence, B+ tree will be faster and efficient for the given task.

2. (b) and (d) are false.
Minimum key in non-leaf is $\lceil \frac{6}{2} \rceil - 1 = 2$
Max. data pointers in leaf = 6

3.

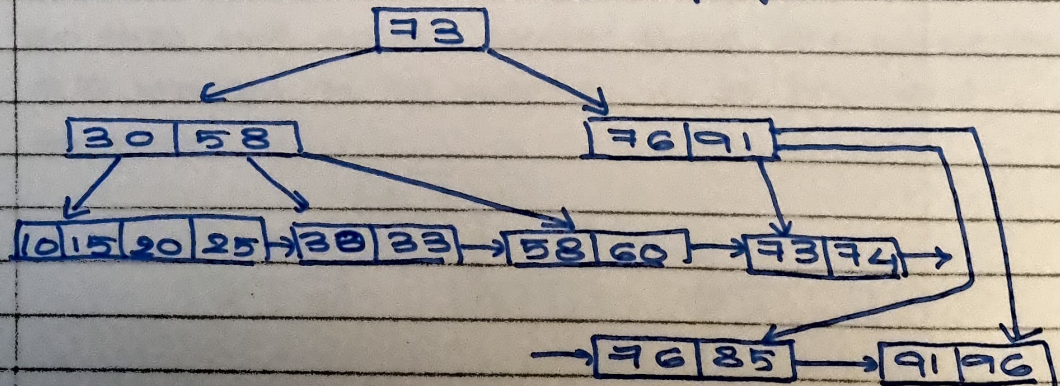


(a) Delete 75

Delete 75 directly from the leaf. Its deletion does not violate min keys req = $\lceil \frac{5}{2} \rceil - 1 = 2$

(b) Delete 89

Delete 89 from leaf and index page.
Take its successor to index page.



(c) Delete 73

Delete 73 from root and leaf. Merge node with 74 with its sibling. Merge the children of root to one