

[illegible]

Handwritten diagram illustrating a binary search on an array: $[4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24]$. The target is $x = 24$. The current search range is from index 6 to 10. The mid is calculated as $mid = \frac{li + hi}{2} = \frac{6 + 10}{2} = 8$. The element at index 8 is 20, which is less than the target. The search range is updated to $[6, 9]$.

array →

4	6	8	10	12	14	16	18	20	22	24
0	1	2	3	4	5	6	7	8	9	10

(2 = 11)

$mid = 0 + 10 = 5$

Linear Search v/s binary search.
 $\hookrightarrow 10^6 \rightarrow \text{etc} \rightarrow \underline{\underline{10^8}}$ - search.
 $\underline{\underline{10^8}}$

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