

Tuesday, 18 October 2022 7:40 PM

Linear Search

Array

1	2	7	3	4	10
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 $N = 10$

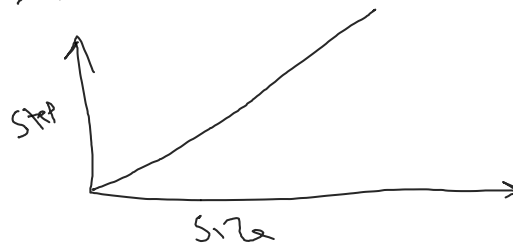
Search number 50?

 $O(N)$

Second ~~X~~

Step ~~✓~~ N

Size array \leftarrow
Steps -----



Linear Search Pseudo Code

go through every index and check

if value = number

Print index

return;

else:

Continue

Binary Search

input \rightarrow Sorted list

$O(\log N)$
18 step

240,000

0	1	2	3	4	5	6	7	8	9

 $N = 10$
 $low = 0$
 $high = N - 1 = 9$

①

$$\text{middle} = (\text{low} + \text{high}) / 2 = 4$$

② check if $\text{arr}[\text{mid}] \rightarrow \text{arr}[\text{mid}]$

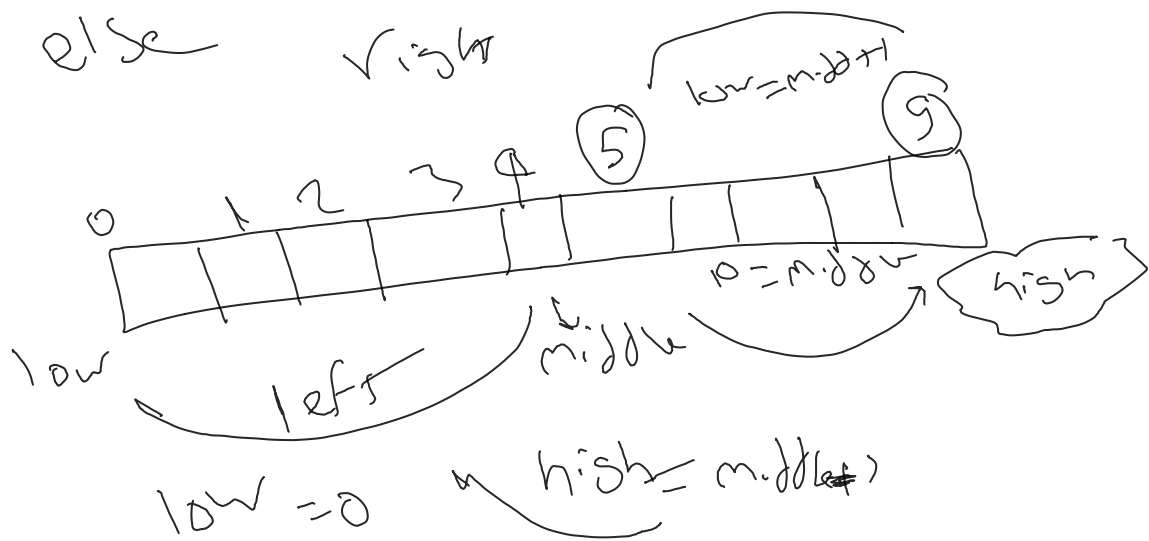
return i

elseif $\text{arr}[\text{mid}] > \text{Number}$

left

else

right



Optimization algorithm

greedy

Cashier

$$200 \xrightarrow{-} 28 = 172$$

%

172
↳ LFP

/ 100

✓ 100

... 172



00,0
000

✓ 50
✓ 20
✓ 2

4 US 172

$$42 / 12 = 3 \text{ egg packet}$$

$$42 \% 12 = 7 \text{ egg}$$

$$42 - 36 = 7$$

Dynamic Prog Eng

email = mhm@g6.assam

$$i = 0$$

$$N = 10$$

$$i = 1$$

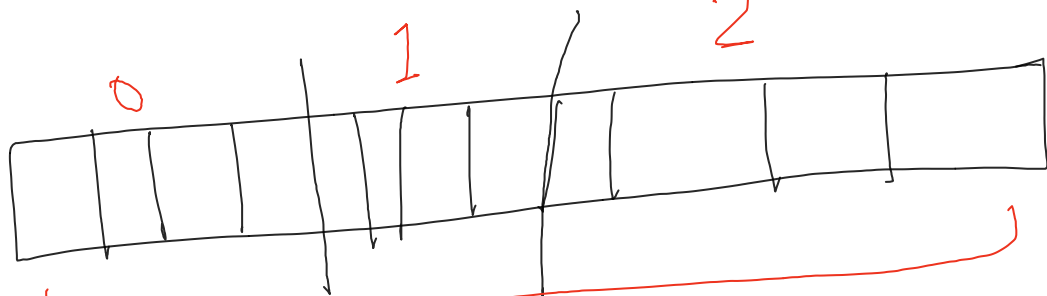
$$N = p$$

$$i = 2$$

$$N = 10$$

int arr[] = {3, 5, 9};

sizeof(arr);



$\text{sizeof(arr)} / 4$

sizeof(int)

