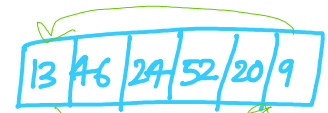
Selection Sort

Thursday, 30 May 2024 4:31 PM

Selection Sort



Idea

Select minimum & Swap

	Step
9 46 24 52 20 13	1
9 13 24 52 20 46	2
9 13 20 52 24 46	3
9 13 20 24 52 46	4
9 13 20 24 46 52	5

Write Sudo Code

① Swap at index 0 & minimum index [0 - n-1]

② Swap at index 1 & minimum index [1 - n-1]

③ Swap at index 2 & minimum index [2 - n-1]

⋮

Swap at index n-2 & minimum index [n-2 - n-1]

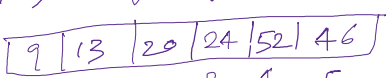
↓

Why

See above 4th step

n-2 n-1 → array index

(n) array length is 6




```
for (i=0; i<=n-2; i++)
```

```
{
    min = i;
    for(j = i; j <= n-1; j++)
    {
        if(arr[j] < arr[min])
        {
            min = j;
        }
    }
    swap(arr[min], arr[i])
}

function swap(arr[min], arr[i])
{
    temp = arr[min]
    arr[min] = arr[i]
    arr[i] = temp
}
```

Time Complexity ⇒ $O(n^2)$ → Best
worst
Average