Problems - 02

MAX SUM CONTIGUOUS SUBARRAY

#Lockdown continues #Stay At Home

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["Hello World"]

Problems - 02

MAX SUM CONTIGUOUS SUBARRAY

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Max Sum Contiguous Subarray

Question :- Find the contiguous subarray within an array, A of length N which has the largest sum.

.....

Example :- Given,

$$A = [1, 2, 3, 4, -10]$$

Contiguous Sub Array: -

```
{1}
{1,2}
{1,2,3}
{1,2,3,4}
{1,2,3,4,-10}
```

Max Sum Contiguous Subarray

Example :- Given,

$$A = [1, 2, 3, 4, -10]$$

Contiguous Sub Array: -

$$\{2\}$$
 = $\{2\}$
 $\{2,3\}$ = $\{5\}$
 $\{2,3,4\}$ = $\{9\}$
 $\{2,3,4,-10\}$ = $\{-1\}$

$$\{-10\}$$
 = $\{-10\}$

This will Take O (n^2)
So, we ignore this.

Max Sum Contiguous Subarray

Solution :-

Kadane's Algorithm

But, First we have to Understand the Logic :-

We have to find the contiguous Array

Let's suppose,

Start index of That contiguous Array, int start = 0

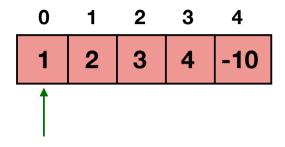
End index of That contiguous Array, int end = 0

We make 2 temp. Variable for comparisons:

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Max Sum Contiguous Subarray

Now lets start the comparison



```
Max_so_far = 10
Max_ending_here = 0
Start = 0 end =3
```

```
for(int i=0;i<n;i++) {
    max_ending_here+=a[i];

if(max_so_far<max_ending_here){
    max_so_far=max_ending_here;
    start=s; end=i; }

if(max_ending_here<0) {
    max_ending_here=0;
    s=i+1;}
}</pre>
```

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" If you feel any problem then comments in my video I will reply as soon as possible "

- Prince Agarwal

