Date
Page

★ Maximum Subarray sum

→ Input : -2 1 -3 4 -1 2 1 -5 4

output : 6

subarray [4 -1 2 1] = 6 has maximum sum

★ Brute force

```
for(int i=0 ; i < size; i++)
    for(int j=i; j< size ; j++)
        int sum=0;

            for(int k=i; k<=j ; k++)
                if(sum > maxi)
                    maxi = sum;
```

Answer = maxi

★ Better brute force

```
for(i=0 ; i < size ; i++)
    for(j=i ; j< size ; j++ ){
        sum += arr[j]

            if (sum > maxi)
                maxi = sum;
        }
}
```

Answer = maxi

Date
Page

★ Kadane's Algorithm

Example

-2	1	-3	4	-1	2	1	-5	-4
↓	↓	↓	↓	↓	↓	↓	↓	↓

muxi = INT_MIN ~~-2~~ ~~1~~ ~~-2~~ ~~4~~ ~~3~~ ~~5~~ ~~6~~ [6]

sum = ~~-2~~ ~~1~~ ~~-2~~ ~~4~~ ~~3~~ ~~5~~ ~~6~~ ~~1~~ -3

0 0 ↓ 0

if (~~sum~~ > muxi) muxi = sum

if (sum < 0) sum = 0

while (traversing the loop)

★ code :

```
for(i=0; i<size; i++)
    sum += nums[i];

    if (sum > muxi)
        muxi = sum

    if (sum < 0)
        sum = 0
```

Answer = muxi