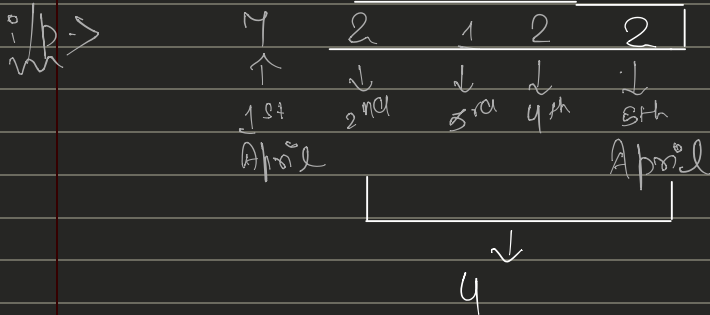


Online Stock Span

(Monotonic Stack)



ex 2 \rightarrow 7 | 34 | 1 | 2 | 8

o/p \rightarrow 5

Qx3 \rightarrow 100, 80, 60, 70, 60, 75, 60, 75, 85

(N-1) \rightarrow Vector

vector \checkmark

① \rightarrow 100 \rightarrow null

② \rightarrow 80 \rightarrow 1

③ \rightarrow 60 \rightarrow 1

④ \rightarrow 70 \rightarrow 2

⑤ \rightarrow 60 \rightarrow 1

⑥ \rightarrow 75 \rightarrow 4

⑦ \rightarrow 60 \rightarrow 6

price
 \downarrow
100 vector

\downarrow
100 | 80 | 60 | 70 | 60 | 75 | 25

$$TC = O(n^2)$$

n-2 \rightarrow Stack \rightarrow

\Rightarrow $\underset{\uparrow}{100}$, $\underset{\uparrow}{80}$, $\underset{\uparrow}{60}$, $\underset{\uparrow}{70}$, $\underset{\uparrow}{60}$, $\underset{\uparrow}{75}$, $\underset{\uparrow}{85}$

60, 12	75, 12
60, 1	75, 1 85, 6
80, 1	85, 6
100, Null	

```

while (st.top() -> price <= price)
    {
        span += st.top() -> span
        st.pop()
    }
    st.push(price, span)
    
```

Max Pop / Push $\rightarrow n$

TC = space = $O(n)$