

RECURSION Concepts



& Qns

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video
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मैं, DSA की शपथ
लेता हूँ कि मैं जो पढ़ाउगा
जहाँत अच्छे से पढ़ाउगा। ”

Facebook
Instagram } → code story with MIK

(Twitter) → CS with MIK

code story with MIK →

Motivation
(मनोबल)

● If you feel like
giving up, remember

why you started...

#codestorywithMIK

Reverse a Stack

Medium

Accuracy: 80.5%

Submissions: 64K+

Points: 4

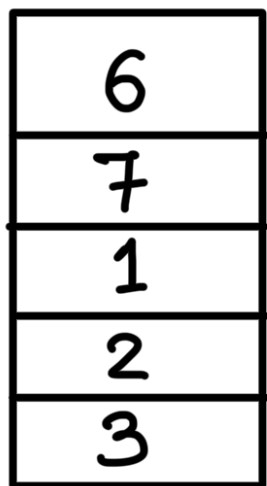
Swiggy

OGT

Am.
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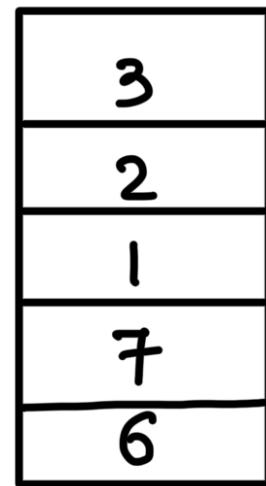
You are given a stack `St`. You have to reverse the stack using recursion.

Example :- $St = \{3, 2, 1, 7, 6\}$



Input

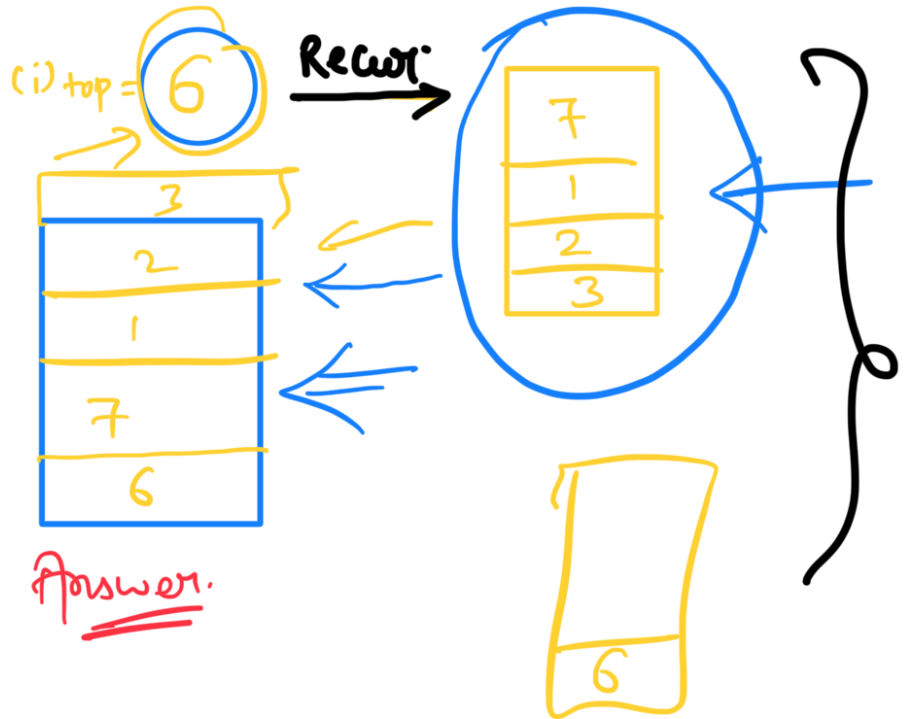
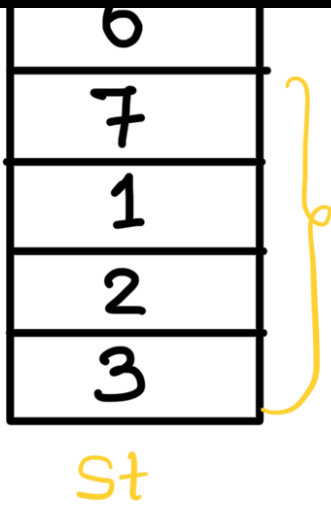
reverse →



Output

Let's apply the magic of Recursion
"Story To Code"

Story :-



```
void reverse ( stack <int> &st) {
    if (st.empty()) {
        return ;
    }
}
```

```
{ top = st.top();
  st.pop(); }
reverse (st); // Trust
```

```
stack <int> temp;
```

```
while ( !st.empty()) {
    temp.push (st.top());
    st.pop();
}
```

```
st.push (top);
while (!temp.empty()) {
```

Auxiliary space
 $O(n)$

```
st.push(stemp.top());
st.pop();
```

```
}
```

$O(1)$ Auxiliary

Space :-

(using Recursion)

```
reverse(st) {
```

```
//B.case
```

```
top.
```

```
reverse(st);
```

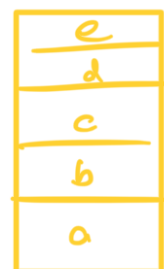
```
//insert At Bottom of st.
```

```
insertBottom(st, top);
```

```
}
```

S.C = $O(1)$ A.S.

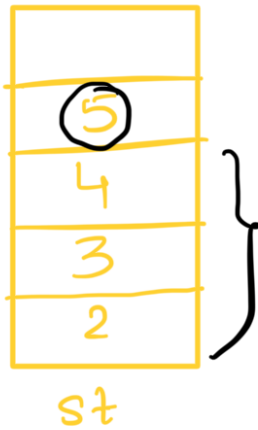
T.C = $O(n^2)$



// insertAtBottom of a stack.

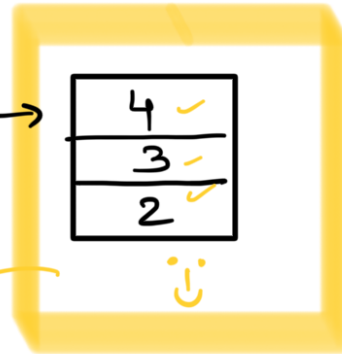
element = 1

Trust



top = 5

insertBottom →



```
insertBottom (stack<int> &st , element) {
```

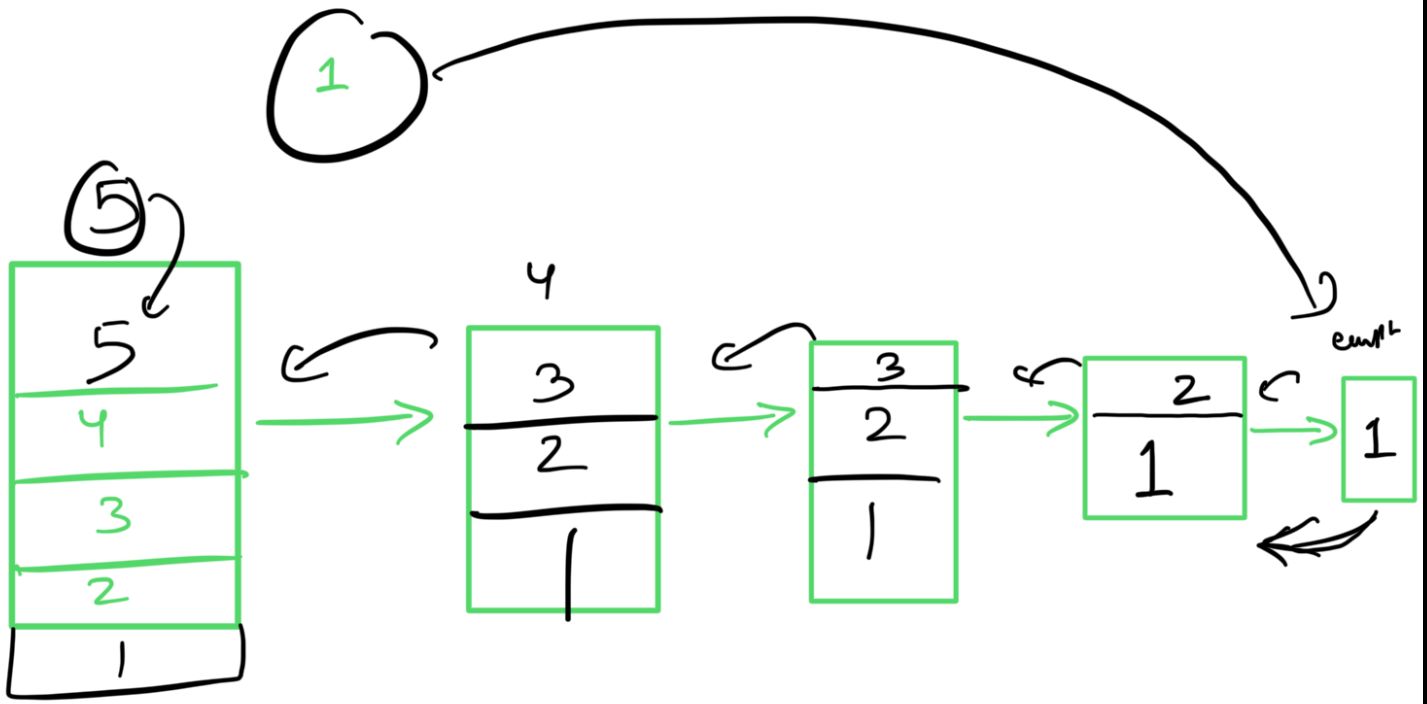
```
    if (st.empty()) {  
        st.push(element);  
        return;  
    }
```

```
    int top = st.top();  
    st.pop();
```

```
    insertBottom (st, element);
```

```
    st.push(top);
```

```
}
```



Story to Code

😊