

155. Min Stack

Easy



5243



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Design a stack that supports push, pop, top, and retrieving the minimum element in constant time.

Implement the `MinStack` class:

- `MinStack()` initializes the stack object.
- `void push(val)` pushes the element `val` onto the stack.
- `void pop()` removes the element on the top of the stack.
- `int top()` gets the top element of the stack.
- `int getMin()` retrieves the minimum element in the stack.

Example 1:

Input

```
["MinStack", "push", "push", "push", "getMin", "pop", "top", "getMin"]  
[[], [-2], [0], [-3], [], [], [], []]
```

Output

```
[null, null, null, null, -3, null, 0, -2]
```

Explanation

```
MinStack minStack = new MinStack();  
minStack.push(-2);  
minStack.push(0);  
minStack.push(-3);  
minStack.getMin(); // return -3  
minStack.pop();  
minStack.top();    // return 0  
minStack.getMin(); // return -2
```

Constraints:

- $-2^{31} \leq \text{val} \leq 2^{31} - 1$
- Methods `pop`, `top` and `getMin` operations will always be called on **non-empty** stacks.
- At most $3 * 10^4$ calls will be made to `push`, `pop`, `top`, and `getMin`.

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Consider each node in the stack having a minimum value. (Credits to @aakarshmadhavan)