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Section: IDB2-DSALGO1

```python
class Stack:
    new *
    def __init__(self):
        self.stack = []

    2 usages  new *
    def size(self):
        return len(self.stack)  # Fixed: Changed self-stack to self.stack

    16 usages  new *
    def push(self, item):
        self.stack.append(item)

    16 usages  new *
    def pop(self):
        if not self.is_empty():
            return self.stack.pop()
        else:
            return "Error: Stack is empty!"

    8 usages  new *
    def current_items(self):
        return self.stack

    4 usages  new *
    def is_empty(self):
        return len(self.stack) == 0

    1 usage  new *
    def top(self):
        if not self.is_empty():
            return self.stack[-1]
        else:
            return "The stack is empty"
```

```
stack = Stack()

#Table code
stack.push(5)
print("Current stack: " + str(stack.current_items()))
stack.push(3)
print("Current stack: " + str(stack.current_items()))
print(f"Current size: {stack.size()}")
print(f"Popped value: {stack.pop()}")
print(f"Is stack empty? {stack.is_empty()}")
print(f"Popped value: {stack.pop()}")
print(f"Is stack empty? {stack.is_empty()}")
print(f"Popped value: {stack.pop()}")
stack.push(7)
print("Current stack: " + str(stack.current_items()))
stack.push(9)
print("Current stack: " + str(stack.current_items()))
print(f"Top value: {stack.top()}")
stack.push(4)
print("Current stack: " + str(stack.current_items()))
print(f"Current size: {stack.size()}")
print(f"Popped value: {stack.pop()}")
stack.push(6)
print("Current stack: " + str(stack.current_items()))
stack.push(8)
print("Current stack: " + str(stack.current_items()))
print(f"Popped value: {stack.pop()}")
print("Current stack: " + str(stack.current_items()))

stack.pop()
stack.pop()
stack.pop()
print()
```

```
Current stack: [5]
Current stack: [5, 3]
Current size: 2
Popped value: 3
Is stack empty? False
Popped value: 5
Is stack empty? True
Popped value: Error: Stack is empty!
Current stack: [7]
Current stack: [7, 9]
Top value: 9
Current stack: [7, 9, 4]
Current size: 3
Popped value: 4
Current stack: [7, 9, 6]
Current stack: [7, 9, 6, 8]
Popped value: 8
Current stack: [7, 9, 6]
```

```python
#Returned Values code
stack.push(5)
stack.push(3)

print(f"Popped value: {stack.pop()}")

stack.push(2)
stack.push(8)

print(f"Popped value: {stack.pop()}")
print(f"Popped value: {stack.pop()}")

stack.push(9)
stack.push(1)

print(f"Popped value: {stack.pop()}")

stack.push(7)
stack.push(6)

print(f"Popped value: {stack.pop()}")
print(f"Popped value: {stack.pop()}")

stack.push(4)

print(f"Popped value: {stack.pop()}")
print(f"Popped value: {stack.pop()}")
```

```
Popped value: 3
Popped value: 8
Popped value: 2
Popped value: 1
Popped value: 6
Popped value: 7
Popped value: 4
Popped value: 9

Process finished with exit code 0
```