Data Strucutres and Algorithms

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Stack-ADT: Python Implementation

- **Stack()** : creates new stack. Needs no parameters rather returns an empty stack

- **push(item)** :adds a new item to top of the stack. It needs the item and returns nothing

- **pop()** : removes the top item from the stack. It needs no parameter and return the item. stack is modified

- **peek()** : returns top item from the stack. No item parameter is required and did not modify the stack

- **is_empty()** : tests to see whether stack is empty. It needs no parameter and returns a boolean value

- **size()** : returns the number of items in the stack. It needs no parameter and returns an integer value

Stack ADT: Python Implementation

```python
class Stack:
    def __init__(self) -> None:
        self.items = []

    def is_empty(self):
        return self.items == []

    def push(self, item):
        return self.items.append(item)

    def pop(self):
        return self.items.pop()

    def peek(self):
        return self.items[-1]

    def size(self):
        return len(self.items)
```