

```
1 from exceptions import Empty
2
3 class ArrayStack:
4     def __init__(self):
5         self._data = []
6     def __len__(self):
7         return len(self._data)
8     def is_empty(self):
9         return len(self._data) == 0
10
11     def push(self, e):
12         self._data.append(e)
13
14     def pop(self):
15         if self.is_empty():
16             raise Empty('Stack is Empty')
17         return self._data.pop()
18
19     def top(self):
20         if self.is_empty():
21             raise Empty('Stack is Empty')
22         return self._data[-1]
23
24 s = ArrayStack()
25 s.push(10)
26 s.push(20)
27 print('Stack: ', s._data)
28 print('Length: ', len(s))
29 print('Is-Empty: ', s.is_empty())
30 print('Popped: ', s.pop())
31 print('Stack: ', s._data)
32 print('Popped: ', s.pop())
33 print('Is-Empty: ', s.is_empty())
34 print('Stack: ', s._data)
35 s.push(30)
36 s.push(40)
37 print('Top Element: ', s.top())
38 print('Stack: ', s._data)
```