

Step	Algorithmic Sequence	Corresponding Python Code	Stack State	Explanation	
1	Initialize an empty stack	stack = []	[]	The stack begins empty.	
2	Push "A", "B", "C", "D" onto the stack	stack.append("A") stack.append("B") stack.append("C") stack.append("D")	["A", "B", "C", "D"]	Elements are added one by one. D is at the top.	
3	Pop the top two elements	stack.pop() stack.pop()	["A", "B"]	The stack follows the LIFO (Last-In, First-Out) principle.	
4	Push "E" onto the stack	stack.append("E")	["A", "B", "E"]	"E" is added on top of the current stack.	
5	Determine the top element	top = stack[-1]	N/A	The last element in the list/stack is the top element.	
Result	The final top element	print(top)	["A", "B", "E"]		

B is now the top.				
Following the Last-In, First-Out) principle. "D" is removed, then "C" is removed. B is now the top.				
stack.				
the top.				