

Aufgabe 1

- UPN-Rechner (Postfix-Notation)
- Undo-Funktion in Textverarbeitungsprogrammen
- Browser-History
- Backtracking-Algorithmen

Aufgabe 2

- `s.peek()` liefert das oberste Element eines Stacks zurück, ohne es zu entfernen.
- `s.pop()` liefert das oberste Element eines Stacks zurück und entfernt es.

Aufgabe 3

```
class Stack:
```

```
    def __init__():
        self.items = []

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

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

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

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

Aufgabe 4

(bottom) m, a, k (top)

Aufgabe 5

Für die Funktionsweise eines Stacks: *Last In – First Out*

Aufgabe 6

(a) 4 3 2 1 0 9 8 7 6 5
~~0~~ ~~1~~ ~~2~~ ~~3~~ ~~4~~ ~~5~~ ~~6~~ ~~7~~ ~~8~~ ~~9~~
4 3 2 1 0 9 8 7 6 5 True

(b) 4 6 8 7 5 3 2 9 0 1
~~0~~ ~~1~~ ~~2~~ ~~3~~ ~~4~~ ~~5~~ ~~6~~ ~~7~~ ~~8~~ ~~9~~
4 6 8 7 5 3 2 9 1 0 False

(c) 2 5 6 7 4 8 9 3 1 0
~~0~~ ~~1~~ ~~2~~ ~~3~~ ~~4~~ ~~5~~ ~~6~~ ~~7~~ ~~8~~ ~~9~~
2 5 6 7 4 8 9 3 1 0 True

(d) 4 3 2 1 0 5 6 7 8 9
~~0~~ ~~1~~ ~~2~~ ~~3~~ ~~4~~ ~~5~~ ~~6~~ ~~7~~ ~~8~~ ~~9~~
4 3 2 1 0 5 6 7 8 9 True