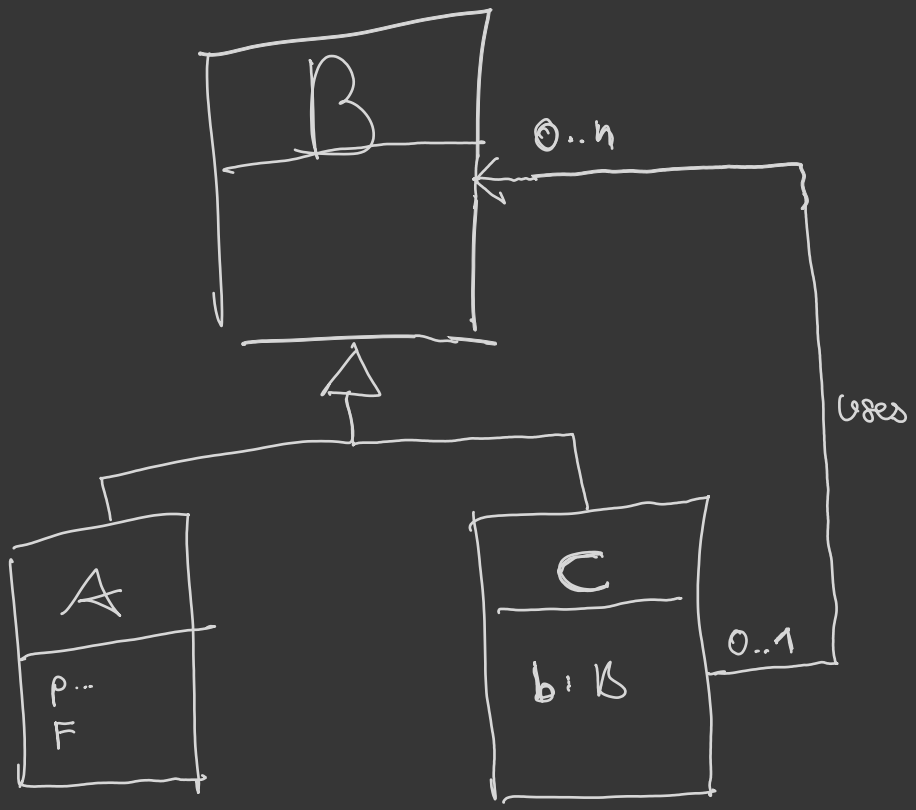
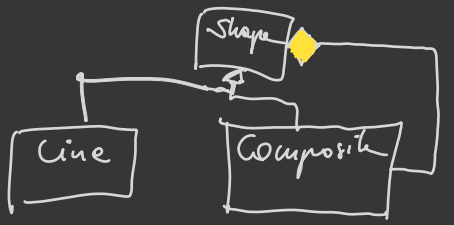
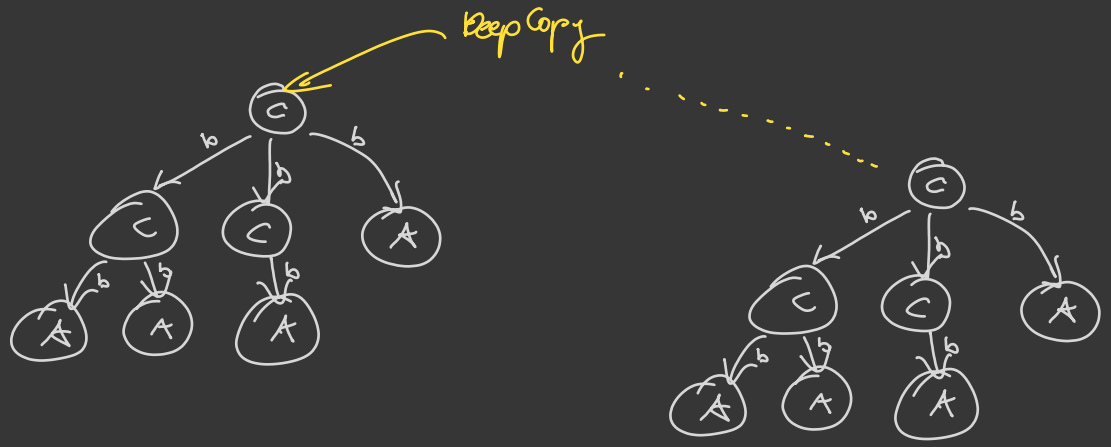
Composite Pattern

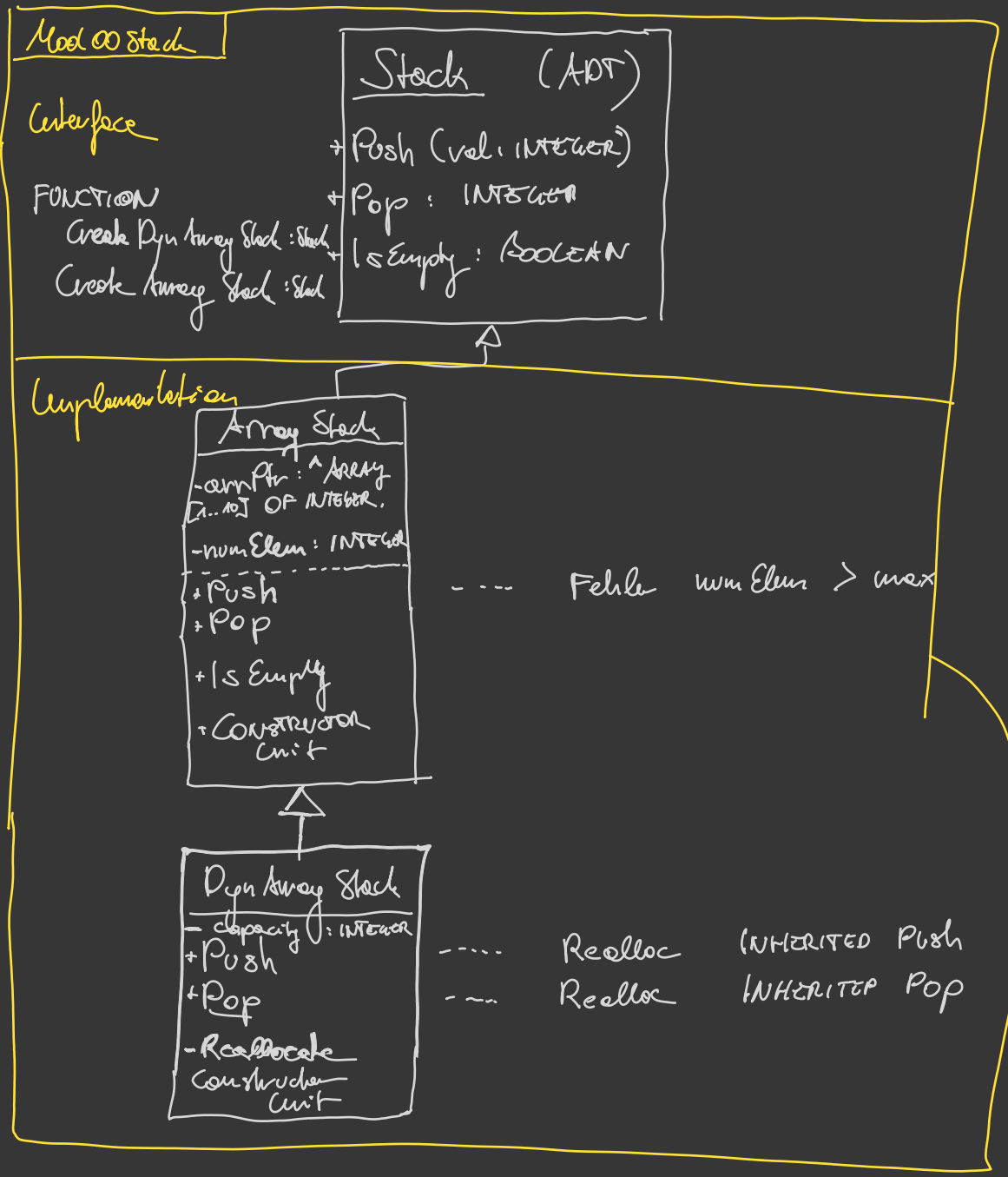


Bei Shapes:
„starke Aggregation"




Deep Copy
C
b
C
C
A
A
A
A
C
b
C
C
A
A
A
A

Obj.-orientierte Implementierung von Stack als ADT



```
INTERFACE
  TYPE
    Stack = POINTER
```

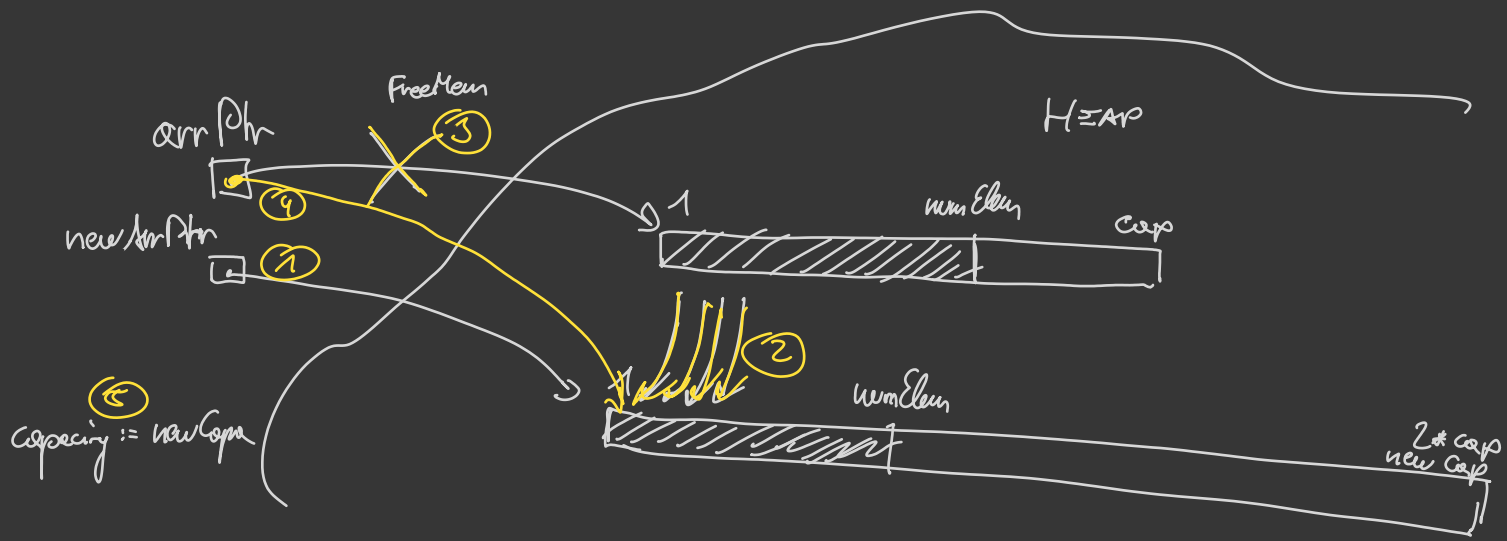
```
IMPLEMENTATION
  PROC Push (s: Stack; val: INTEGER);
  BEGIN
    ...
    InternalStack(s)^.arr[pos] := val;
```

problematische Typ-Umwandlung

unit Modul

```
  PROC ArrayStack.Push (val: INTEGER);
  BEGIN
    arr[pos] := val;
```

neu OOP


FreeMem
HEAP
arrPtr
newArrPtr
numElem
cap
numElem
2 * cap
new cap
capacity := newCap