```
def create_stack(max_capacity):
    stack = []
    max_capacity = max(max_capacity, 0)
    return stack, max_capacity


def is_full(stack, max_capacity):
    return len(stack) == max_capacity


def is_empty(stack):
    return len(stack) == 0


def push(stack, item, max_capacity):
    if is_full(stack, max_capacity):
        print("Stack overflow. Cannot push item:", item)
    else:
        stack.append(item)
        print("Pushed item:", item)


def pop(stack):
    if is_empty(stack):
        return "Stack underflow"

    return stack.pop()


max_capacity = 3
stack, max_capacity = create_stack(max_capacity)

push(stack, 1, max_capacity)
push(stack, 2, max_capacity)
push(stack, 3, max_capacity)
push(stack, 4, max_capacity)
print("Popped item:", pop(stack))
print("Stack after popping an element:", stack)
print("Popped item:", pop(stack))
print("Stack after popping an element:", stack)
print("Popped item:", pop(stack))
print("Stack after popping an element:", stack)
print("Popped item:", pop(stack))
```