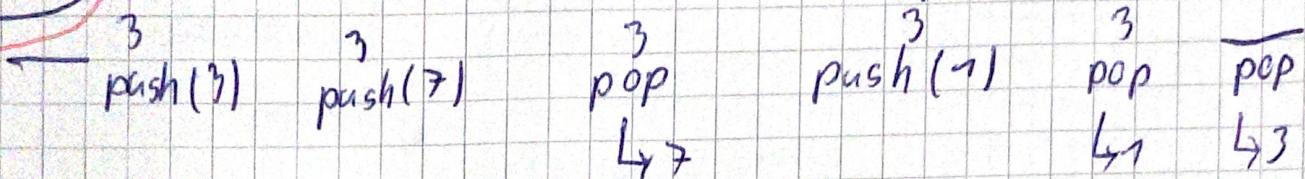
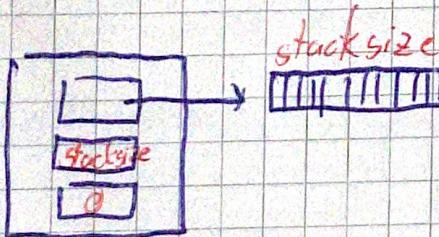


# Stacks



Stack mit Array

```
struct stack {
    int * data;
    int size;
    int top;
}
```



```
struct stack* init(int stacksize) {
    struct stack*s = (...)(malloc(stacksize *
        sizeof(int));
    s->data = (...)(malloc(stacksize *
        sizeof(int));
    s->size = stacksize;
    s->top = 0;
    return s;
}
```

```
void push (struct stack*s, int v) {
    if(s->top < s->size) {
        s->data[s->top] = v;
        s->top++;
    } else {
        exit(-1); // Stack wall
    }
}
```

SEIN

```
int pop(struct stack *s){  
    if (*top > 0){  
        *top--;  
        return s->data[*top];  
    } else {  
        exit(-1); → Stack leer  
    }  
}
```

Stack mit eien L-L:

```
struct node {  
    struct node *next;  
    int value  
};  
  
struct stack {  
    struct node *top;  
};  
  
struct stack * init(){  
    struct stack *s = (...) malloc(sizeof(struct stack));  
    s-> top = NULL;  
}  
  
void push(struct stack *s, int value){  
    struct node * n = (...) malloc(sizeof(struct node));  
    n-> value = value;  
    (n-> next = NULL);  
    n-> next = s-> top;  
    s-> top = n;  
}
```

```
int pop(struct stack *s) {
    if(s->top == NULL) {
        exit(-1); /* Stack Error */
    }
    int value = s->top->value;
    struct node *n = s->top;
    s->top = s->top->next;
    free(n);
    return value;
}
```