



# STACKS

A Last In, First Out Data Structure



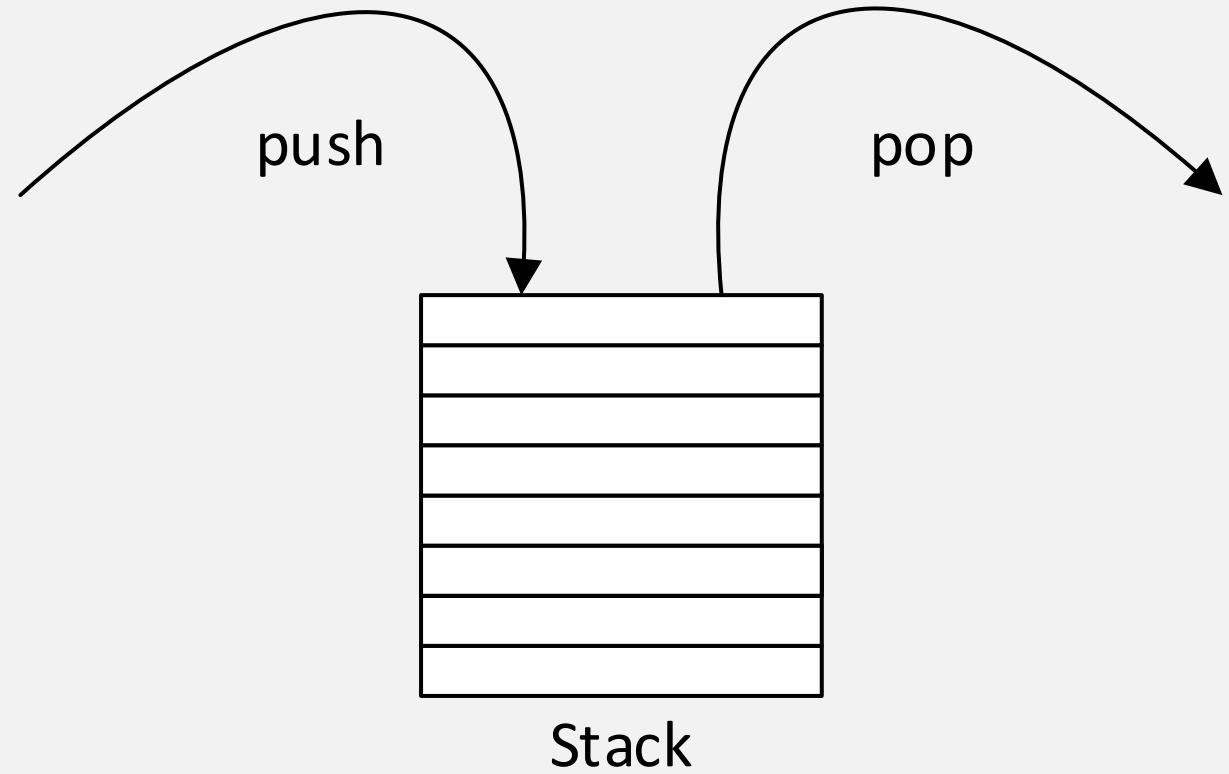
## STACK BEHAVIORS

push an element on the stack

pop an element off the stack

size – the number of elements on the stack

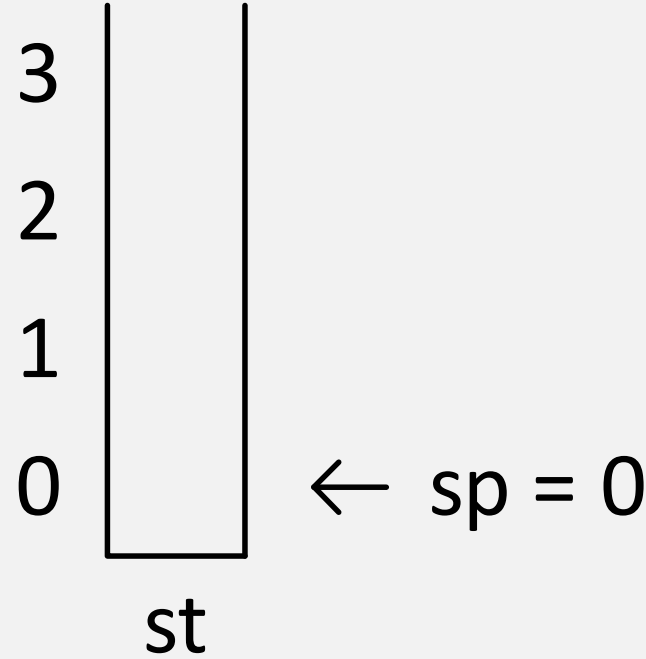
peek at the top element





# ARRAY IMPLEMENTATION

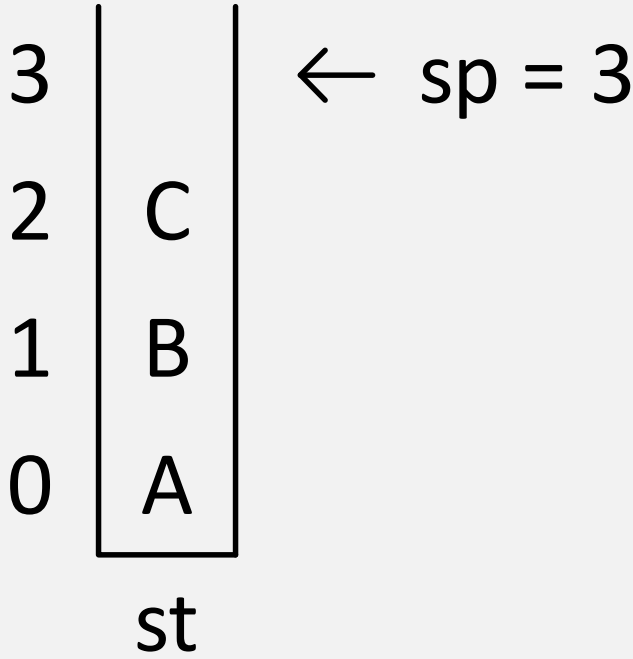
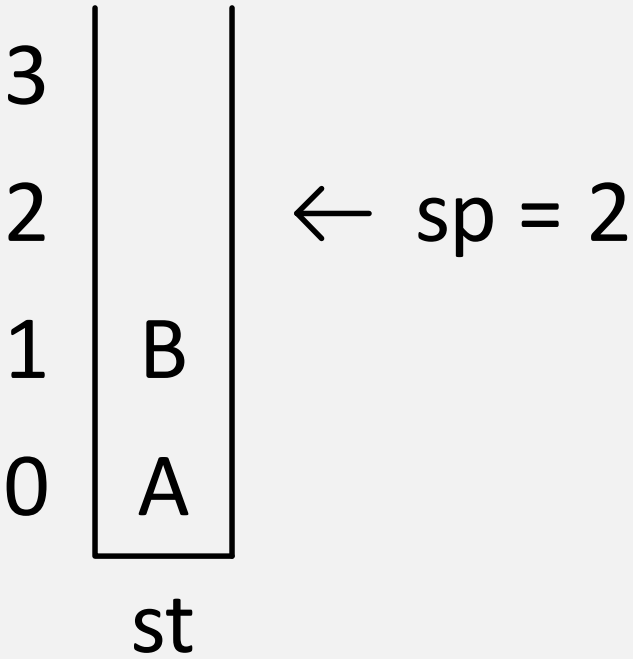
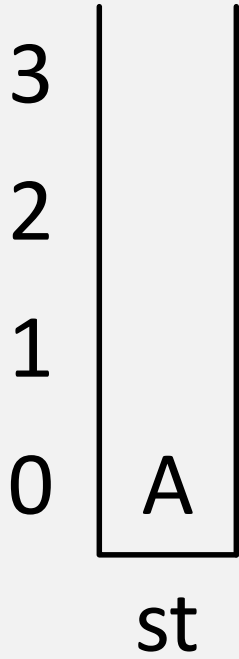
- Based on an array and a stack pointer
- push
  - `st[sp++] = data;` (sp must be  $<$  SIZE)
- pop
  - `return st[--sp];` (sp must be  $>$  0)
- size
  - `return sp;`
- peek
  - `return st[sp-1];`





# PUSHING DATA ONTO A STACK

```
st[sp++] = data;
```



## POPPING DATA OFF OF A STACK

```
return st[--sp];
```

