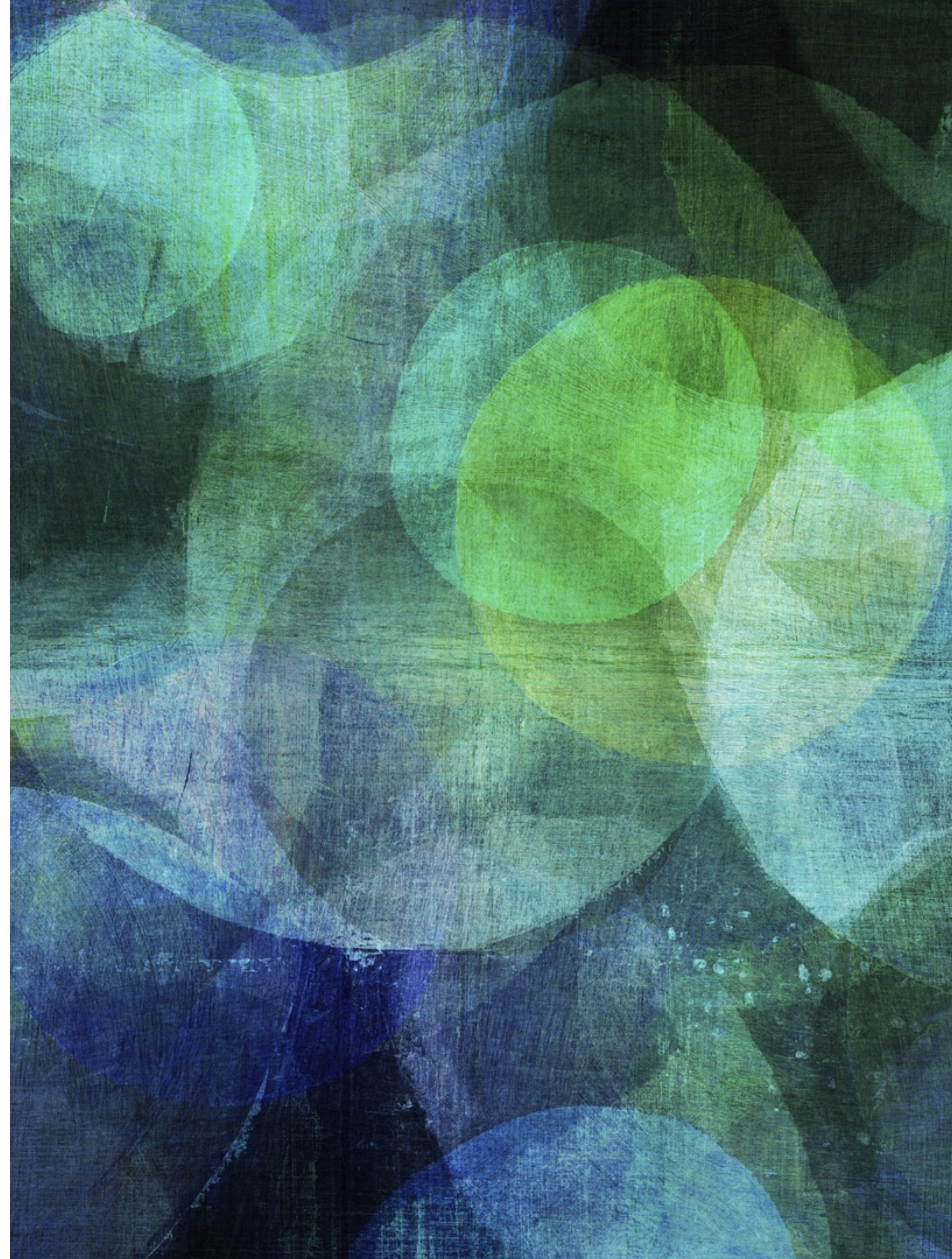# STACKS IN JAVA

Leap @ CMU 2016

LAST IN FIRST OUT

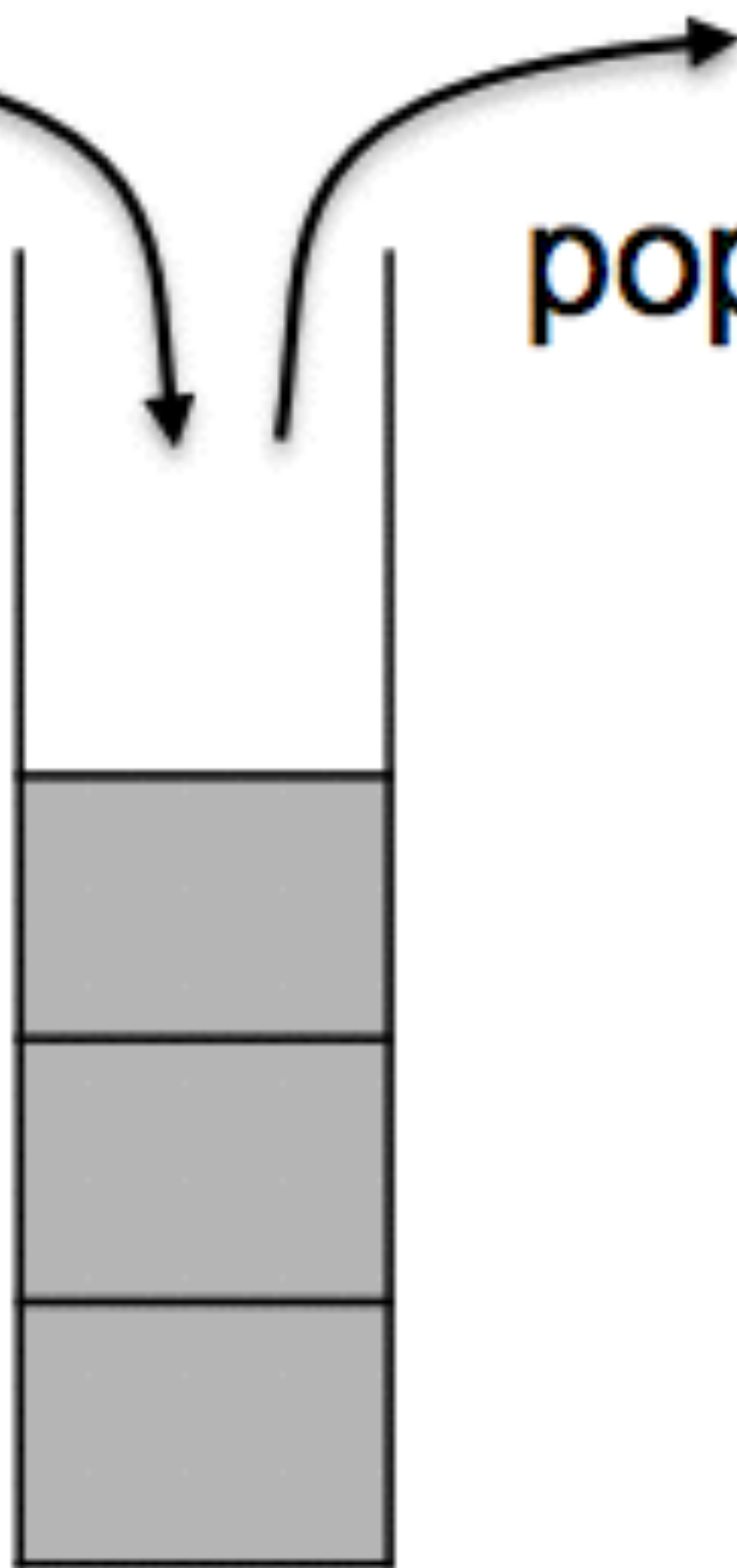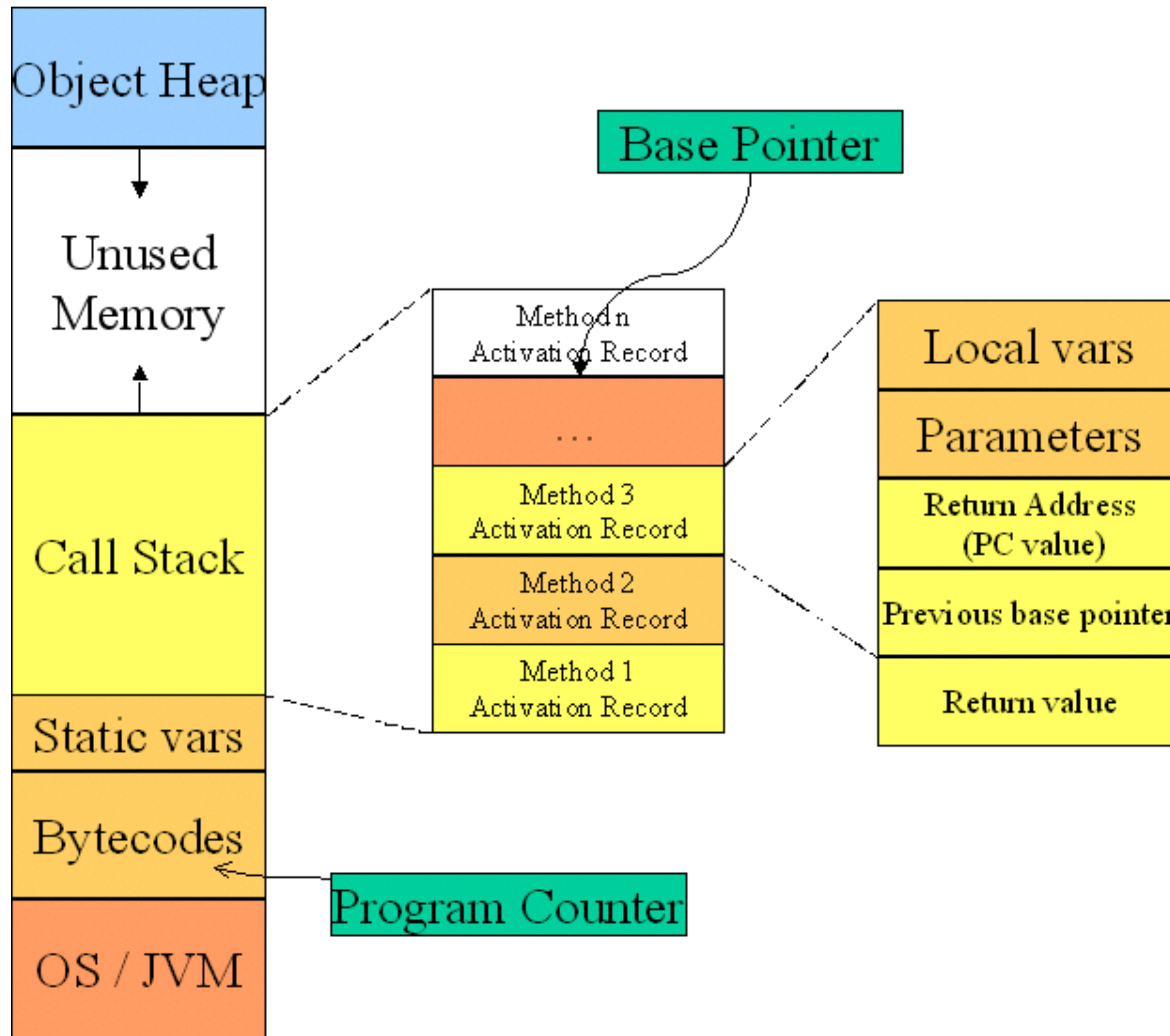*LIFO*

push()　　　　　　　pop()

top

stack

APPLICATIONS OF STACKS

➤ Arithmetic expressions

  ➤ Infix

  ➤ Prefix

  ➤ Postfix

➤ Backtracking

  ➤ Similar to a maze

  ➤ Used in recursion

➤ Memory management (left)

  ➤ Call stack at the center of runtime

  ➤ Java, C++, etc.

Infix	Postfix	Prefix	Notes
A * B + C / D	A B * C D / +	+ * A B / C D	multiply A and B, divide C by D, add the results
A * (B + C) / D	A B C + * D /	/ * A + B C D	add B and C, multiply by A, divide by D
A * (B + C / D)	A B C D / + *	* A + B / C D	divide C by D, add B, multiply by A

STAR GUIDELINES

* ★ Evaluate infix

* ★ Evaluate postfix

* ★ Evaluate prefix

* ★ Infix to postfix

* ★ Infix to prefix