



STACK AND HEAP

Where Data Goes

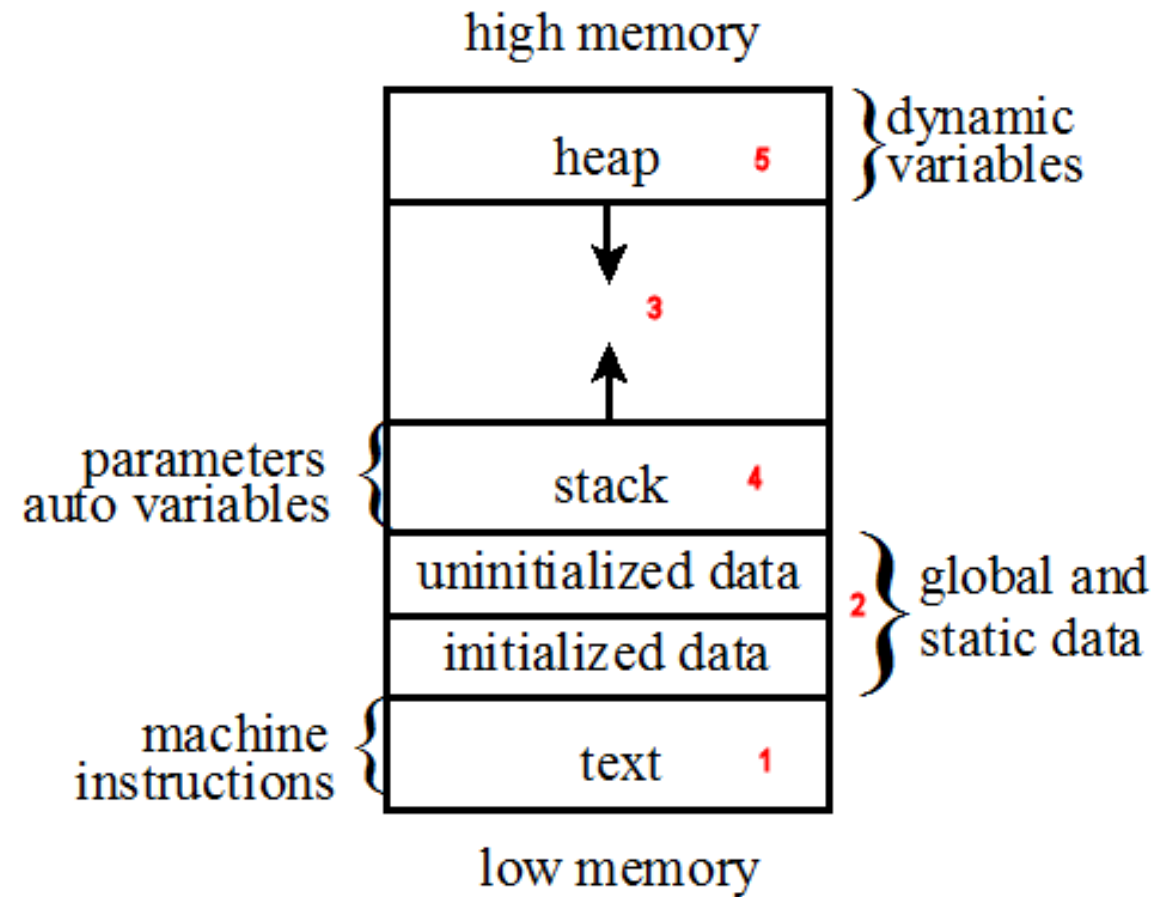
LOGICAL MEMORY LAYOUT

A program organizes its data based on the tasks that the memory is used for.

Different areas behave differently, that is, they are managed by different algorithms.

Data are stored in one of three areas

1. Global and static area
2. Stack
3. Heap





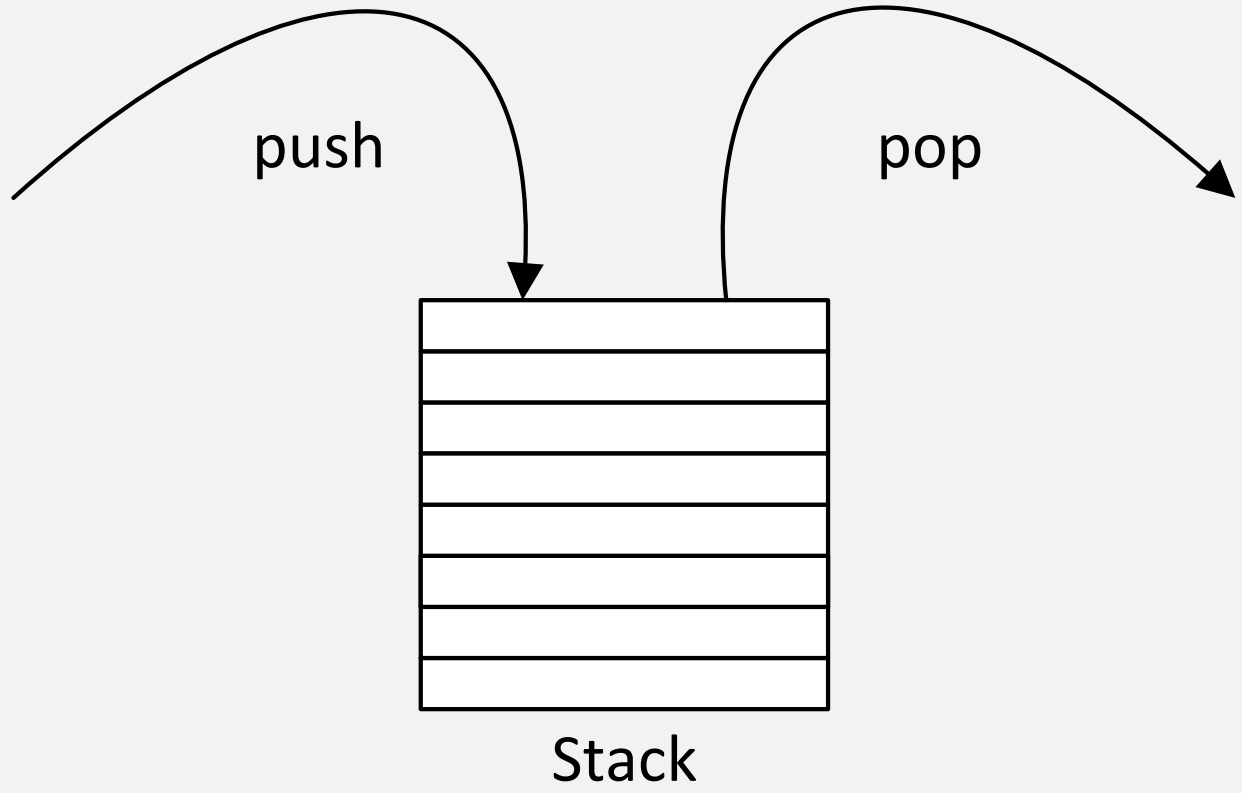
GLOBAL AND STATIC DATA

- Static data was introduced in chapter 1
 - Includes the “static” keyword as a part of its definition
 - Memory is allocated at program startup and deallocated when the program ends
- Global data is defined outside of classes and functions
 - Memory is allocated when the program is loaded into memory
 - Memory remains allocated until the program ends
 - Values stored here remain available throughout program execution
 - Global data is problematic and its use discouraged



Last In First Out

Automatic variables are store on the stack





HEAP

Allocated memory remains available to the program until it returned to the heap (or lost)

Memory allocated on the heap may be returned in any order

Lost memory becomes garbage

Dynamic variables are stored on the heap

