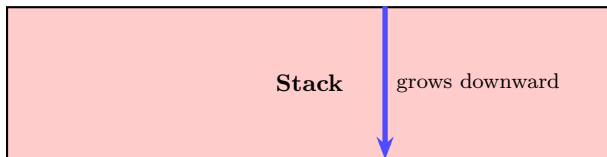


# Program Memory Layout

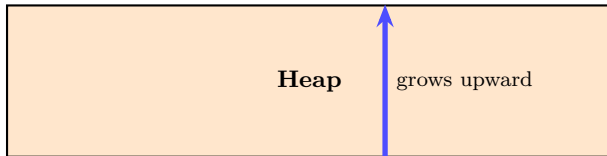
High Address



**Stack**

grows downward

- Local variables
- Function parameters
- Return addresses
- LIFO structure



**Heap**

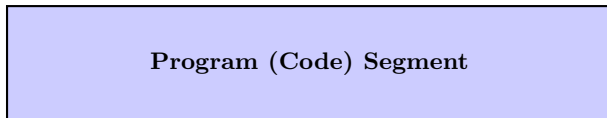
grows upward

- Dynamic allocation
- malloc() / free()
- Variable size at runtime



**Static/Global Data Segment**

- Global variables
- Static variables
- Lifetime: entire program



**Program (Code) Segment**

- Machine instructions
- Read-only
- Fixed size

Low Address