CS 105: Introduction to Computer Science

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Computer Memory

- Physically stores information (data and programs)

- For immediate use (different from *mass storage*)
  - CMSC 251 "Principles of Computing Systems" goes into much more detail

- Is a finite but renewable resource
  - How do functions use memory?

Program Call Stack

- Stores information about active functions, including:
  - Function calls
  - Variable values
  - Current function being executed

- Inactive function calls and variables are removed from the stack

- Has limited space and can overflow

Recursion   vs.   Loops

- Elegant solution with less code

- Solves complex problems

- Function calls take time and memory

- Deep recursion can overflow the stack

- Good for simple iteration and mutative operations

- Generally more efficient

- Code can quickly become complex and hard to understand