Topics for Exam 2

Functions:
• What are they used for?
• Defining and calling
• Parameters
• Scoping of internal variables ("what happens in Vegas")
• Return values (none, multiple)
• Arguments (positional, keyword, default)
• Pass by reference
Topics for Exam 2 (cont.)

Computer Hardware and Software:

• Parts of a computer: storage devices, memory, CPU, communication devices, input devices, output devices
• Difference between memory and hard drive; volatility
• SI units (KB, MB, GB, etc.)
• CPU speed and the fetch/execute cycle
• Von Neumann and the Stored Program Model
• Compilers and Interpreters
• Operating Systems
Objects and Classes:

- Imperative Programming vs. OOP
- Classes and Instances (defining classes, creating instances using a constructor, `self`, methods vs. functions, properties)
- Mutability
- Data Hiding: “dunder” variables, getters and setters
Topics for Exam 2 (cont.)

Strings:
- Basics (initializing, len/max/min)
- Indexing (positive and negative indices)
- Slicing
- Concatenation / multiples
- Substring search (in / not in)
- Comparing strings
- Traversing strings
- String methods (testing, editing, searching)
Topics for Exam 2 (cont.)

Lists:
- Basics
- Indexing and Slicing
- Concatenation / Multiples
- len, max, min, sum
- Comparison
- Sublist search (in / not in)
- List methods