

- Read and write code using **1D** and **2D lists**
- Use string/list **methods** to call functions directly on values
- Recognize whether two values have the same **reference** in **memory**
- Recognize the difference between **destructive** vs. **non-destructive** functions/operations on **mutable** data types
- Use **aliasing** to write functions that destructively change lists
- Define and recognize **base cases** and **recursive cases** in recursive code
- Read and write basic **recursive code**
- Trace over recursive functions that use **multiple recursive calls** with Towers of Hanoi
- Recognize **linear search** on lists and in recursive contexts
- Use **binary search** when reading and writing code to search for items in sorted lists
- Identify the **keys** and **values** in a dictionary
- Use **dictionaries** when writing and reading code that uses pairs of data
- Use **for loops** to iterate over the parts of an **iterable** value
- Recognize the requirements for building a good **hash function** and a good **hashtable** that lead to **constant-time search**