A dictionary in python is a set of pairs including a key and a value. This allows users to quickly search and find values in a dictionary with known keys. A key can be any immutable type including strings and numbers as long it is a unique value. If using a key that is the same as another, the older value will be replaced with the new value. A dictionaries keys and values can be listed easily by printing the dictionary name. Using the list() method will print the dictionaries keys unsorted. To print all keys sorted, the sorted() method can be used. Iterating through a dictionary can be done using a for loop and the items() method to list both keys and values. Searching for a value is done using the get() method. To remove a member of the dictionary, simply use the del() method.

Python allows the creation of complex numbers and provides multiple methods to perform different mathematical operations on the complex numbers themselves. Creating a complex number is done by simply adding a ‘+ j’ to the end of a number initialization. This creates a number with both real and imaginary parts. You can access the real and imaginary parts of the complex number using the .real and .imag operators. You can find both the polar coordinates and the phase of a complex number using the polar() and phase() methods respectively.

cmath — Mathematical functions for complex numbers — Python 3.9.0 documentation. (2020). Retrieved 15 November 2020, from <https://docs.python.org/3/library/cmath.html>

Data Structures — Python 3.9.0 documentation. (2020). Retrieved 15 November 2020, from https://docs.python.org/3/tutorial/datastructures.html#dictionaries