Summarization

Functions:

Functions are blocks of organized, reusable code that perform a specific task. They allow you to break down your code into smaller, manageable parts, making it easier to read, debug, and maintain. Functions can take inputs (arguments) and produce outputs (return values), and they can be called multiple times from different parts of the program. In Python, you define a function using the def keyword followed by the function name, parameters (if any), You can then include the function's code block with an indentation.

Ex:

```
def hello(name):
    print(“hello ,  ”+ name + )

hello(“ mai”)
```

Data Structures:

- Lists: Ordered collections of items. Lists are mutable, meaning you can change their content after creation.
- Dictionary: Key-value pairs where each key is unique. Dictionaries are unordered and mutable.
- Tuple: Ordered, immutable collections of items. Once created, the elements of a tuple cannot be changed.
- Sets: Unordered collections of unique elements. Sets are mutable, but they cannot contain duplicate elements.

Error Handling:

- Error handling allows you to deal with unexpected issues that may arise during program execution. In Python, you can handle errors using try, except, else, and finally blocks. These blocks allow you to catch specific types of exceptions and respond accordingly, preventing your program from crashing.

Random Numbers:

- Random numbers are generated using the random module in Python. This module provides functions for generating random numbers, shuffling sequences, and selecting random elements. Some commonly used functions include random(), choice(), and shuffle().

Files Input/Output:

- File I/O operations allow you to work with external files on your computer. You can read data from files, write data to files, and manipulate file contents. In Python, you typically use the open() function to open a file and specify the mode ('r' for reading, 'w' for writing, 'a' for appending)After performing operations on the file, you should close it using the close() method.