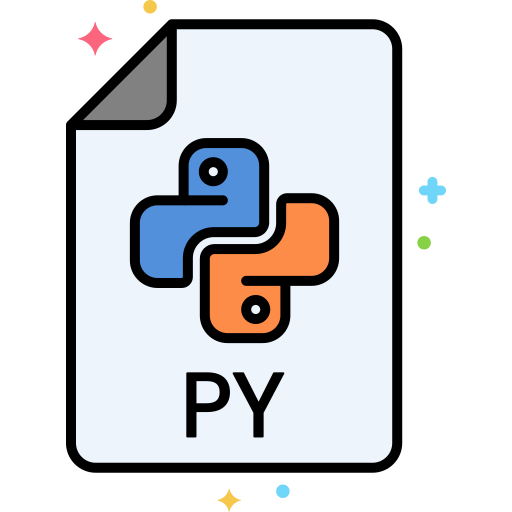
**Sunday, April 30, 2023**

**INRODUCTION INTO PYTHON**

****

**Challenges faced by beginners when learning Python:**

- **Syntax**: Python has a unique syntax that can be challenging for beginners to learn initially.

- **Understanding concepts**: Concepts such as loops, functions, and modules can be difficult to grasp for beginners.

- **Debugging**: Debugging errors in Python code can be a time-consuming process for beginners.

- **Libraries**: Python has many libraries that can be overwhelming for beginners to understand and implement.

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Two strategies for overcoming these obstacles:

**--------**

1. **Practice:** Consistent practice can help beginners become more comfortable with Python syntax and concepts.

2. **Seek help:** Utilizing online resources such as documentation, forums, and communities can help beginners learn from experienced developers and get help with debugging errors.

**Time complexity and space complexity:**

     Time complexity is a measure of how much time an algorithm takes to execute as the input size grows. It is usually measured in terms of the number of operations or steps required to complete the algorithm. In other words, it measures the efficiency of an algorithm in terms of time.

**Space complexity**

    is a measure of how much memory an algorithm uses to execute as the input size grows. It is usually measured in terms of the number of memory cells required to complete the algorithm. In other words, it measures the efficiency of an algorithm in terms of memory usage.

\*\*\*\*\*\*\*\*\*\*\*

**Mutable and immutable data types:**

**Mutable data types**

    are those whose values can be changed after creation, while immutable data types are those whose values cannot be changed after creation. In Python, some examples of mutable data types are lists, dictionaries, and sets, while examples of immutable data types are strings, tuples, and frozen sets. When a mutable object is changed, it will have a different identity in memory, while an immutable object will maintain its identity.