Python Basics - Case Study

Introduction:

Python is a powerful, easy-to-learn programming language. It supports multiple paradigms and is widely used in data science, web development, and automation.

Key Concepts:

- Variables and Data Types: int, float, str, bool

- Control Flow: if, elif, else, while, for

- Functions: Defined using the `def` keyword

- Lists and Tuples: Mutable vs Immutable

- Dictionaries and Sets: Key-value pairs and unique collections

Example:

```python
def greet(name):
    print("Hello, " + name)


greet("Archana")
```

Why Python?

- Simple syntax similar to English

- Extensive libraries for everything

- Highly readable and beginner-friendly

Conclusion:

Understanding these basics is crucial for building a strong foundation in programming with Python.