

# Python Basics Notes

## 1. Introduction to Python

Python is a high-level, interpreted programming language known for its simplicity and readability. **2.**

## Variables and Data Types

Variables store data. Example: `x = 10`

Data Types: int, float, str, bool, list, tuple, set, dict **3. Operators**

Arithmetic: +, -, \*, /, %

Comparison: ==, !=, >, <, >=, <=

Logical: and, or, not **4. Conditional Statements**

if condition:

    # code

elif condition:

    # code

else:

    # code **5. Loops**

for i in range(5):

    print(i)

while condition:

    # code **6. Functions**

def greet(name):

    return "Hello " + name **7. Lists**

fruits = ["apple", "banana", "cherry"]

Access: fruits[0]

Add: fruits.append("orange")

Remove: fruits.remove("banana") **8. Tuples**

A tuple is immutable.

numbers = (1, 2, 3) **9. Sets**

A set stores unique values.

colors = {"red", "green", "blue"} **10. Dictionaries**

Stores key-value pairs.

student = {"name": "Harsha", "age": 23}

Access: student["name"] **11. Example Program**

name = input("Enter your name: ")

print("Hello", name) **12. Conclusion**

Python is beginner-friendly and widely used for web development, data analysis, AI, and automation.