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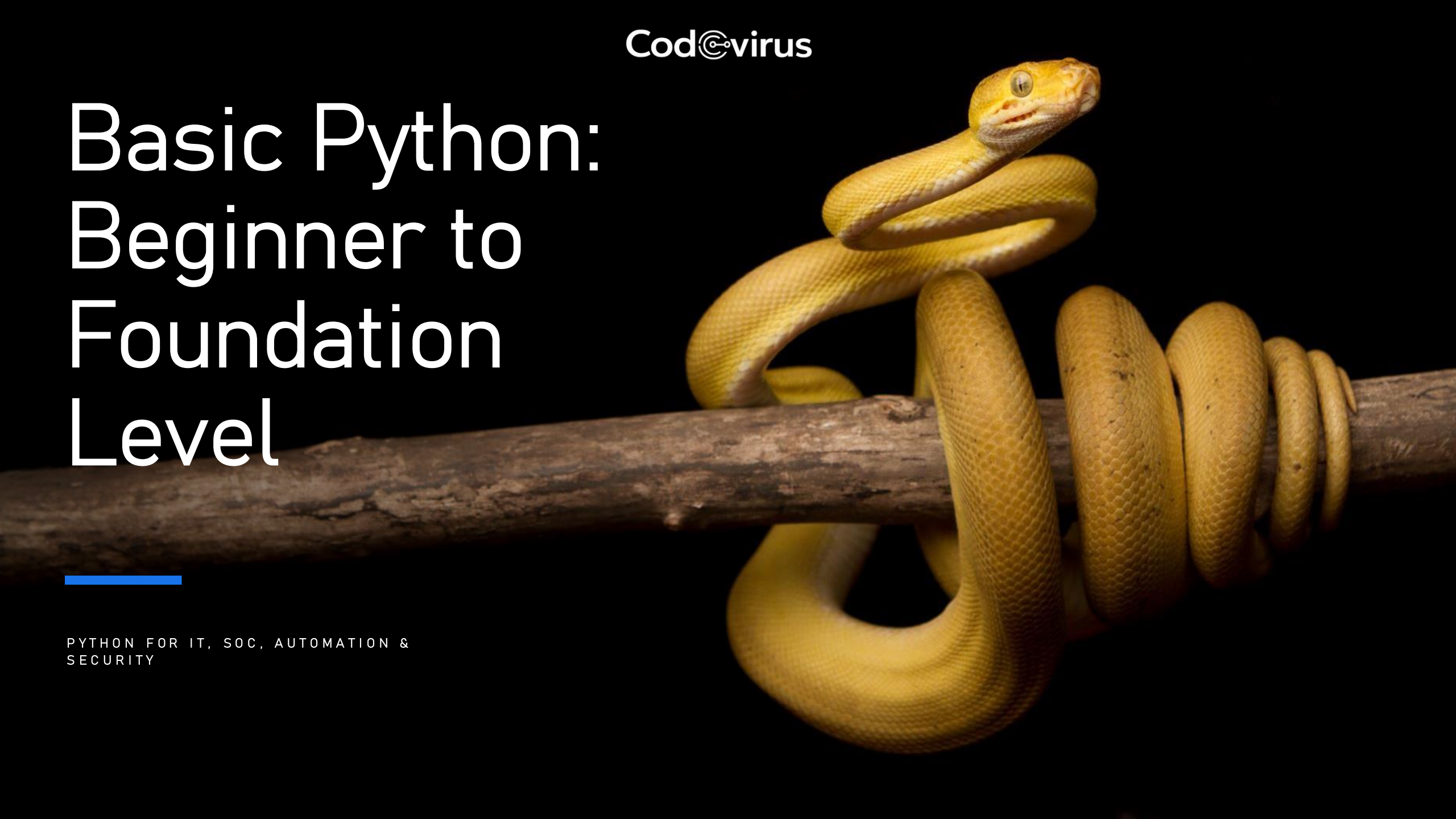
Basic Python: Beginner to Foundation Level



PYTHON FOR IT, SOC, AUTOMATION & SECURITY

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Introduction

- What is Python? A high-level, interpreted programming language known for simple syntax and powerful capabilities. Industry Use: Widely used in Cyber Security, SOC operations, automation, DevOps, cloud, and data analysis. Professional Value: Considered a must-have skill for modern IT and security professionals.

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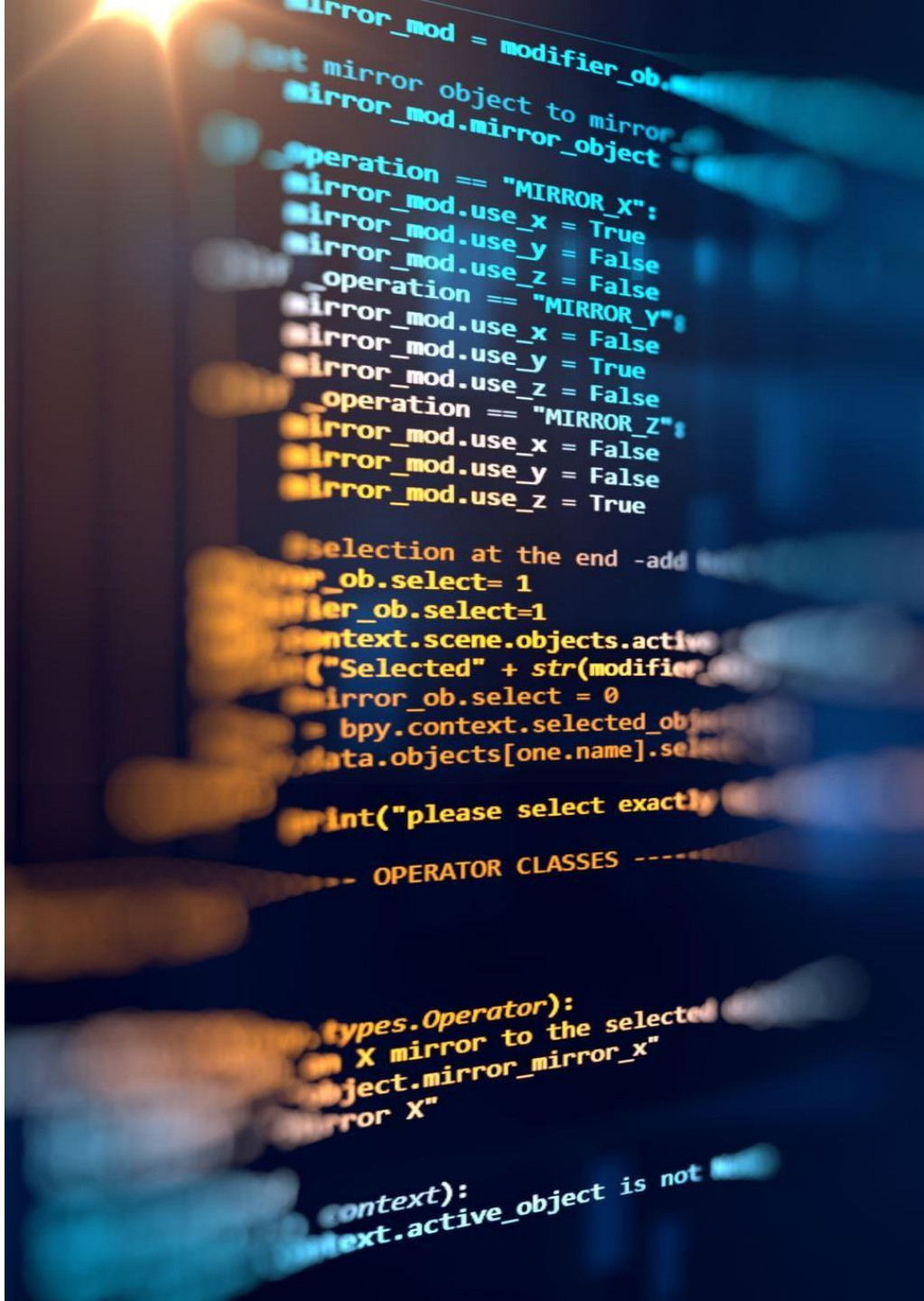
Objectives

- After completing this course, you will be able to: Understand Python basics and syntax. Write simple Python programs using variables and data types. Apply conditions, loops, and operators. Understand Python use cases in cybersecurity and automation. Build a foundation for advanced scripting.



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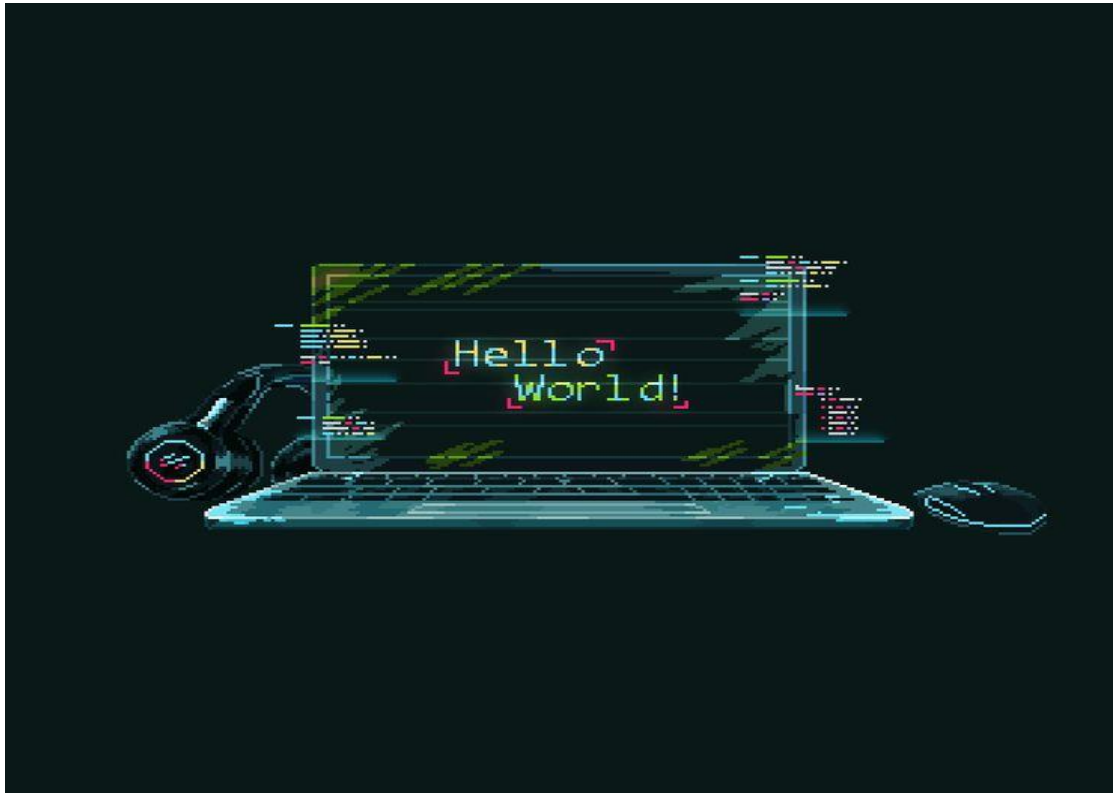
Who Should Learn This Course?



- Beginners in programming. SOC Analysts & Blue Team aspirants. Cyber Security learners. DevOps & Cloud beginners. IT students and professionals.

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Module 1: Introduction & Key Features

- Definition: Python is an open-source language created to emphasize readability and simplicity. Key Features: Easy to learn.Interpreted language.Cross-platform compatibility.Large standard library.Strong community support.

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Module 2 & 3: Execution & Variables

- Ways to Run Python: Python Interpreter.Script file (.py extension).Interactive shell.Variables: Used to store data values. Rules for Variables: No need to define data type.Case-sensitive.Must start with a letter or underscore.

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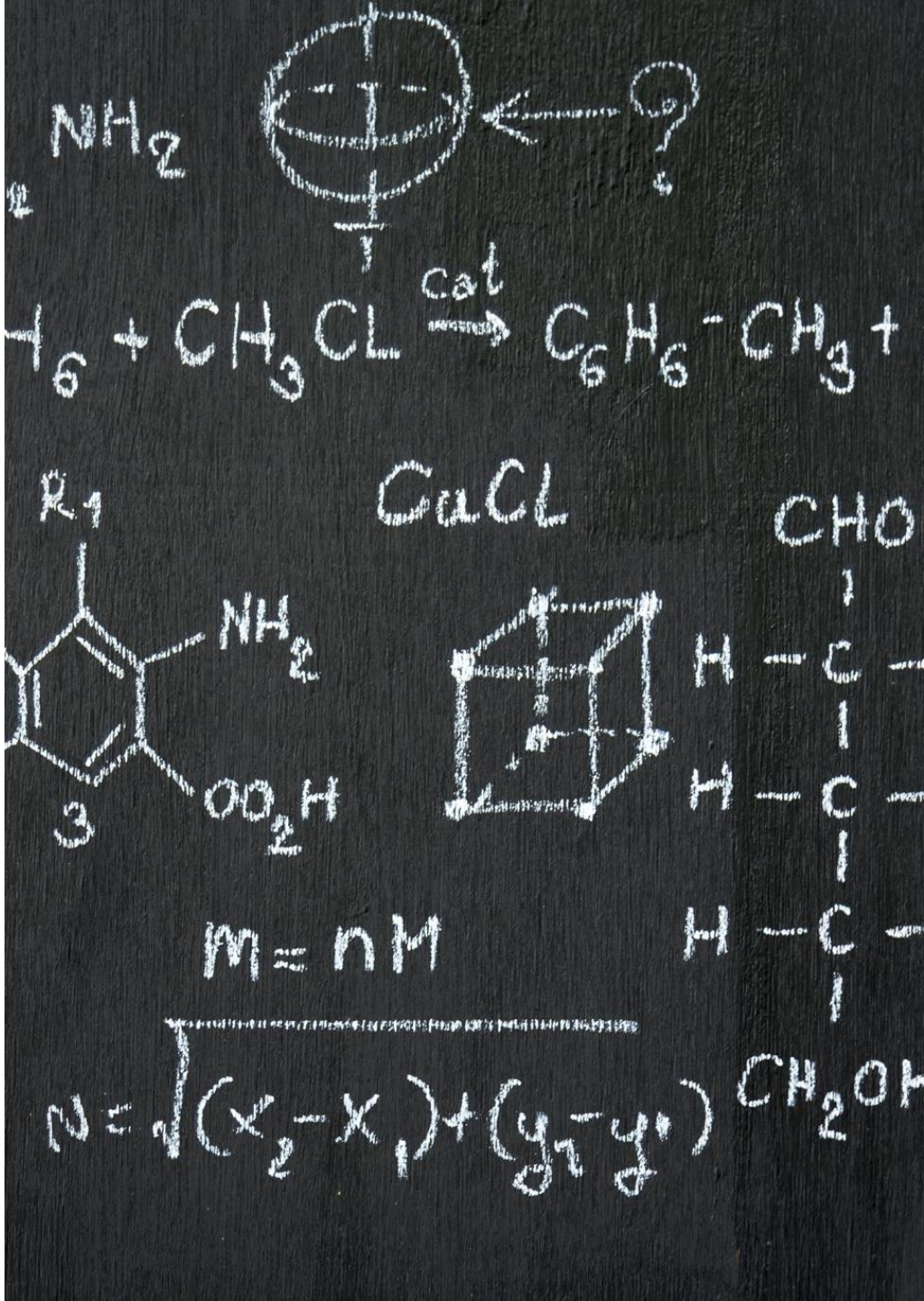
Module 4 & 5: Data Types & Operators

- Common Data Types: int (integer), float (decimal), str (string), bool (True/False).List, tuple, dictionary.Types of Operators: Arithmetic: +, -, *, /Comparison: ==, !=, >, <Logical: and, or, not



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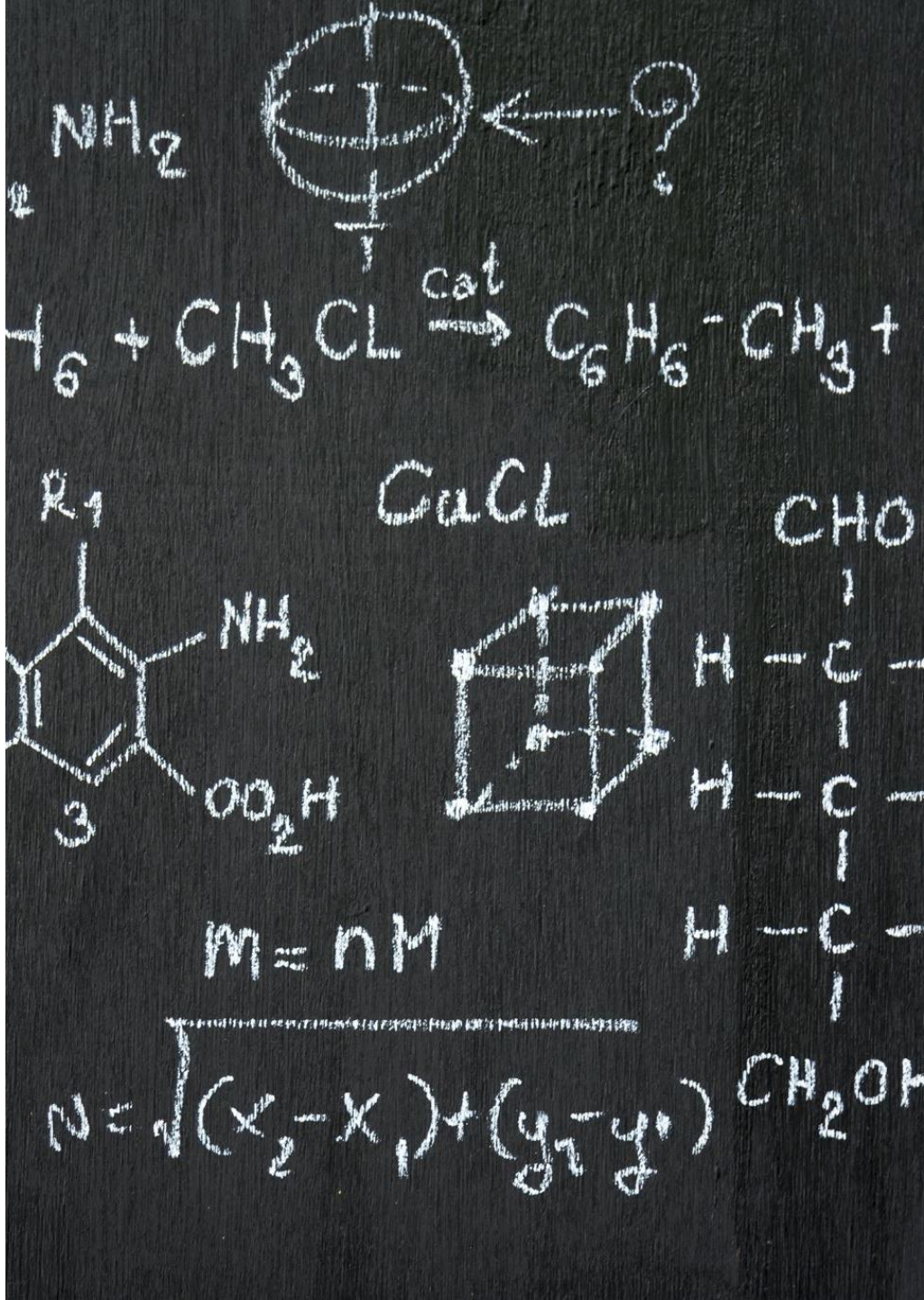
Module 6 & 7: Logic & Control Flow

- Conditional Statements (if-else): Used to make decisions. Example: if age >= 18: print("Adult") Loops: for Loop: Used to repeat tasks (e.g., for I in range(5)□.While Loop: Runs until a condition is false.



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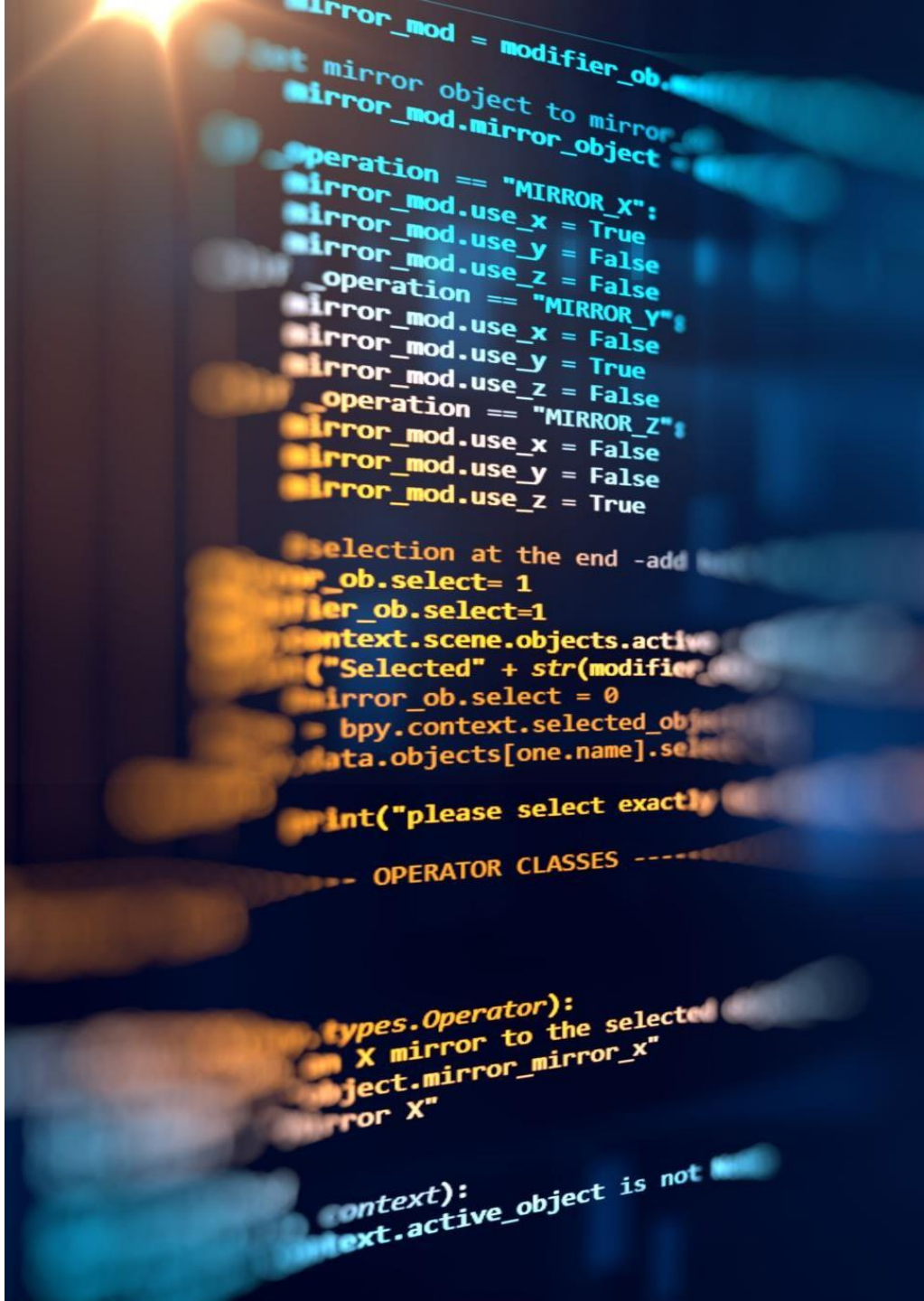
Module 8 & 9: Functions & File Handling

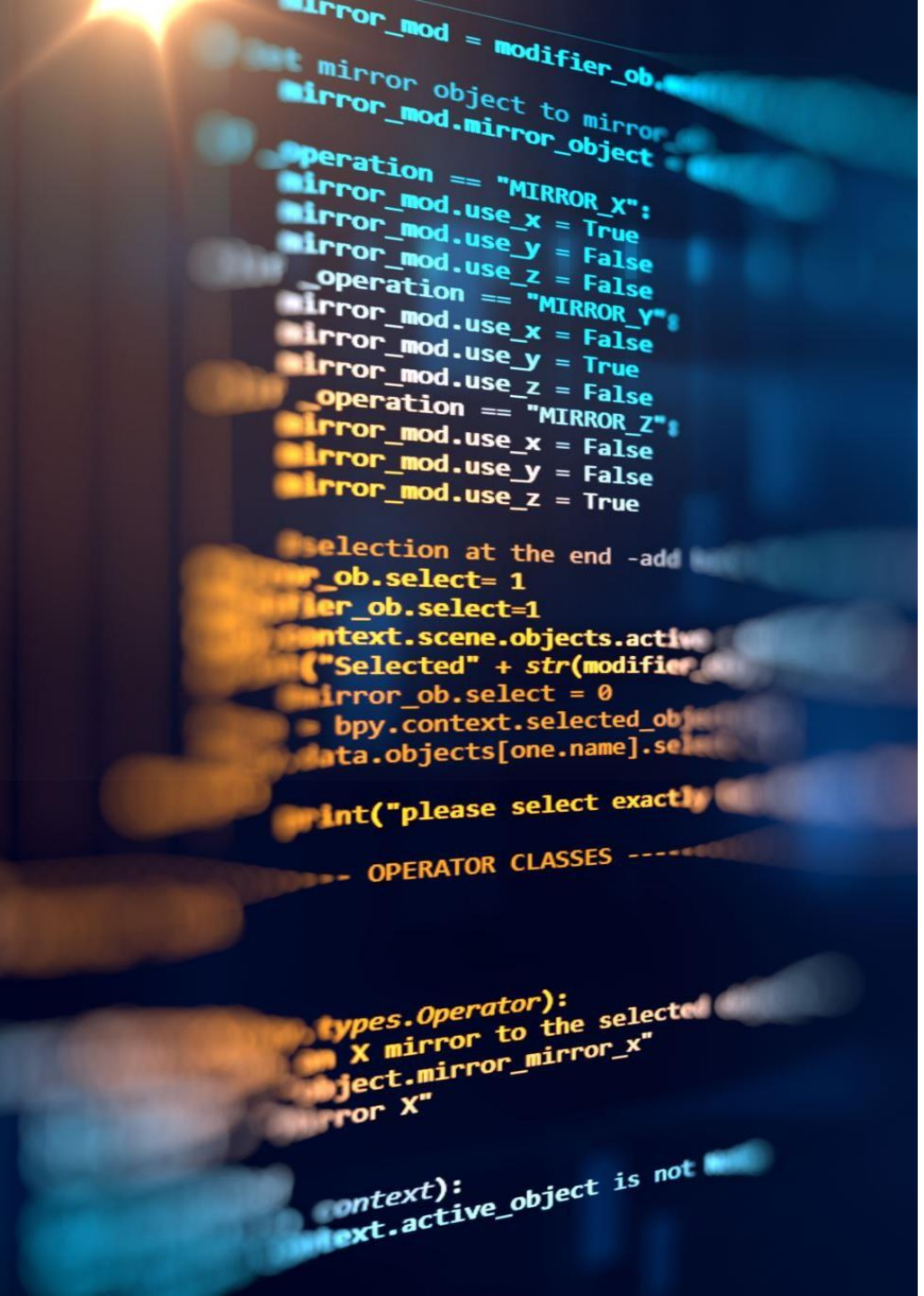
- Functions: A block of reusable code defined using the def keyword. File Handling: Used to read and write files, logs, and reports. File Modes: r (read)w (write)a (append)



Module 10: Python for Cyber Security & SOC

Common Use Cases:

Log parsing and Alert automation.IOC (Indicator of Compromise) checking.API interaction and Report generation.Summary: Python is essential for SOC automation and building security tools.



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Final Notes & Career Path

- The Mindset: Python is about logic, automation, and problem-solving, not just memorizing syntax. Advanced Paths: SOC automation.DevOps scripting.Security tool development.

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Knowledge Check (Quiz Part 1)

- Q1: Python is a: (Answer: High-level language)
- Q2: Python file extension is: (Answer: .py)
- Q3: Which data type stores multiple values? (Answer: list)
- Q4: Which keyword is used for decision making? (Answer: if)
- Q5: Loop used to repeat tasks is: (Answer: for)

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Knowledge Check (Quiz Part 2)

- Q6: Function is defined using keyword: (Answer: def)
- Q7: Python is popular because of: (Answer: Easy readability)
- Q8: Python is used in SOC mainly for: (Answer: Automation)
- Q9: Which operator is logical? (Answer: and)
- Q10: Python supports: (Answer: Multiple data types)