Week One

CSOH| Python Study Group

Schedule (90 min)

1. Welcome (10 min)
2. Environment Setup & Test (15 min)
3. Basic Syntax & Variables (20 min)
4. Mini Project: Input & Output (25 min)
5. Show & Tell (20 min)

Cloud Security Office Hours

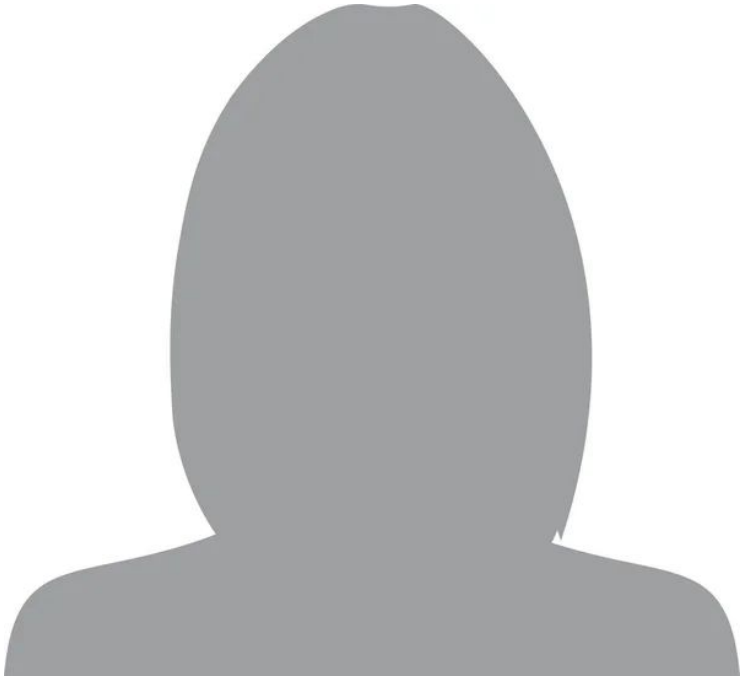
Thanks for the space!

Once a week, every Friday, we host a Zoom call that is an open forum for novices and experts in Cloud Security to collaborate and encourage each other in this field.

Fridays @ 10:00 AM
Same Zoom

https://csoh.org/

`id`



i am D (they/them) or Hetz

recent cybersecurity grad

interested in malware analysis and application security

not an expert, just an enthusiast tired of tutorial hell

and chihuahuas…lots of chihuahuas

Grounding Assumptions

1. **We're all here to learn.**
   Everyone starts somewhere, it's okay to ask questions and make mistakes. This is a space for us to work and learn together.

2. **No prior coding experience required.**
   We'll explain each project and ask our advanced group members for support, when needed.

3. **Python is forgiving.**
   Small errors happen! Syntax mistakes are part of learning how code "thinks."

4. **We'll focus on understanding, not memorizing.**
   Knowing *why* something works is more valuable than remembering every detail.

5. **Try it yourself.**
   The best way to learn coding is by typing, testing, and experimenting.

6. **Respectful collaboration.**
   Share ideas, help each other, and be patient- we're learning together.

7. **Keep it simple today.**
   We'll start with the basics and build up over time — no need to rush.

Focus & Objectives

Focus:

Install Python, set up an environment, and run your first scripts.

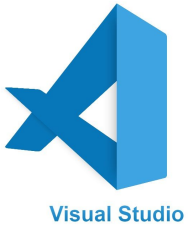
Objectives:

- Print messages, work with variables and strings, understand numbers.
- Run scripts in Python.
- Write a small script that asks for input and prints a message.

Install Python!

- Go to Python.org
- Download & Install Python
- Bookmark PEP 8 Style Guide
- Choose your IDE (Integrated Development Environment)
  - I'm using **Visual Studio Code**

https://code.visualstudio.com/



Numbers

The interpreter acts as a simple calculator! Operators can be used to perform arithmetic; parentheses( ) can be used for grouping:

```
>>> 2 + 2
4
>>> 50 - 5*6
20
>>> (50 - 5*6) / 4
5.0
>>> 8 / 5  # division always returns a floating-point number
1.6
```

To do floor division and get an integer result you can use the // operator; to calculate the remainder you can use %.

http://docs.python.org/3/tutorial/introduction.html#numbers

Numbers

```
>>> width = 20
>>> height = 5 * 9
>>> width * height
900
```

int: whole numbers (5, -10, 0, 1000)

float: decimals or fractional parts

decimal: more precise data type ideal for financial applications where exact values are crucial

(https://stackoverflow.com/questions/59850951/when-to-use-float-vs-decimal)

Build Your First Program

```
welcome = "Welcome to Python Study Group!"
print(f"Say to newcomers, {welcome}")
```

variable: same as math class, it keeps the value you assign

strings: text, characters

print: built-in function used to display output to the console or a specified file (Google)

assignment operator: “=”
(notice it’s not just for numbers!)

We love f strings!

```
name = input("What's your name?")
print(f"Whatchu talkin 'bout, {name}?")
# This is a comment
print("text")
```

A f-string is created by prefixing a string literal with f or F. Python expressions are then embedded within curly braces {} inside the string.

The input function obtains input from the user via the console.

output:
```
Whatchu talkin 'bout, Willis?
```

Resources

- Python Official Docs: https://docs.python.org/3/tutorial/index.html
- W3Schools: https://www.w3schools.com/python/
- Real Python: https://realpython.com/start-here/

Mini Projects (Suggestions)

Input & Output

Build your own simple interactive script.

Use at least **one** variable, print function
and input function.

Optional Challenges

1. Mad Libs Game - Use multiple inputs for a funny story.
2. Add Data Conversion - Ask for a number and multiply it.
3. Style & Comments - Add creativity and formatting.
4. Try String Methods - .upper(), .lower(), .title(), .replace()

Share your work, if you'd like!