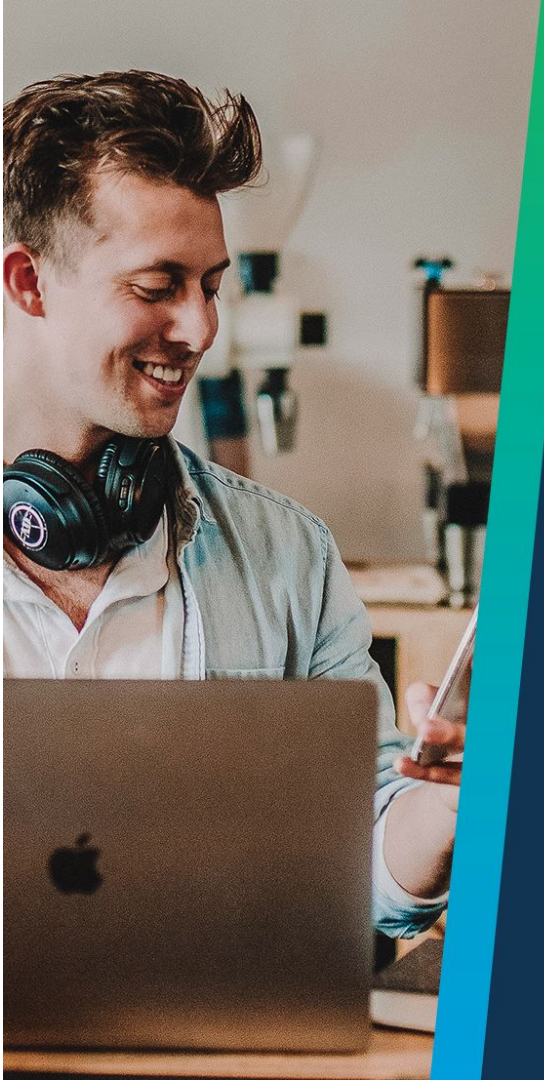

Software Engineering Bootcamp

Hyperiondev

Python Basics

Lecture – Housekeeping

- The use of disrespectful language is prohibited in the questions, this is a supportive, learning environment for all - please engage accordingly.
- No question is daft or silly - **ask them!**
- There are Q/A sessions at the end of the session, should you wish to ask any follow-up questions.
- For all non-academic questions, please submit a query: www.hyperiondev.com/support
- Report a safeguarding incident: http://hyperiondev.com/safeguardreporting

Objectives

1. Install the necessary software required for the boot camp
2. Print output to the terminal
3. Receive input from the users through the terminal
4. Working with different data types such as strings, integers, floats and booleans
5. Control the execution of code using conditional statements

Python

- Python is a powerful and versatile programming language highly regarded in the field of software engineering and data science.
- Clean and readable syntax, along with a vast ecosystem of libraries and frameworks.
- Has a wide range of applications such as building web applications, data analysis, scientific computing and automation.
- Strong community support.

Output

- We use output to communicate with our users.
- You get different types of output but we will focus on output to the terminal using python's built in print() function.
- Name of function is print
- Execute function by adding parentheses after function name
- We can add all the values we would like to print to the terminal inside the parentheses.

Input

- Input is how we receive data in our programs
- We will use a few different ways of getting input such as hard coding input, terminal input using the built-in input() function and external files.
- Hard coding is where we set the values for our program directly in our code instead of getting it from another source.
- Using input() we can execute Python's input function to receive input from the user through the terminal.
- Similar to print we can add values to the input function to print to the terminal before listening for user input.

Variables

- We use variables to store data for later use.
- We can give a variable a name and provide it a value to reference back to.
- E.g. my_variable = “Hello World”
- The variable my_variable now references back to the value “Hello World”
- Anywhere in my code I would like to use the value “Hello World” I can just use my_variable.

Data Types

- There are a bunch of data types in Python.
- We will focus on the more common types such as strings, integers, floats and booleans.
- Strings are a sequence of characters that we usually use to represent text.
- Integers and floats are numerical values and can be used to perform mathematical operations.
- Booleans are a binary data type that can be only True or False.

Conditional Statements

- We can control the execution of our code by only running certain parts of our code when a certain condition has been met.
- Conditions equate to either a True or False value that can be used within an if-statement and a while loop.
- Using conditions we can determines things such as if values are equal or not and bigger or smaller than each other.
- We can then add the code to execute when the condition is met inside the if-statement or while loop with the condition.

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Q & A Section

Please use this time to ask any questions relating to the topic explained, should you have any

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Thank you for joining us

Take regular breaks.
Stay hydrated.
Avoid prolonged screen time.
Remember to have fun :)

Some useful links

Python: https://www.python.org/downloads/

VS Code: https://code.visualstudio.com/download