

ICS-104

Chapter 1

Notes

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- Central Processing Unit:
 - Controls Programs
 - Data Processing
- Storage Devices:
 - Primary: RAM - Temporary
 - Secondary: Hard Disk - Long term Storage
 - Programs are stored in secondary, but loaded into primary when in use.
- Input Devices:
 - mouse
 - keyboard
- Output Devices:
 - Screen
 - Printer
- Central Processing Unit:
 - Control Unit
 - Directs Operations
 - Manages Computer Resources
 - Controls Communication
 - Reads instructions
 - Timing and Signals
 - Arithmetic Logic Unit
 - Performs calculations and comparisons
 - Obeys control unit
 -
 - CPU read, writes and modifies data
 - One instruction cycle at a time

• Programming languages

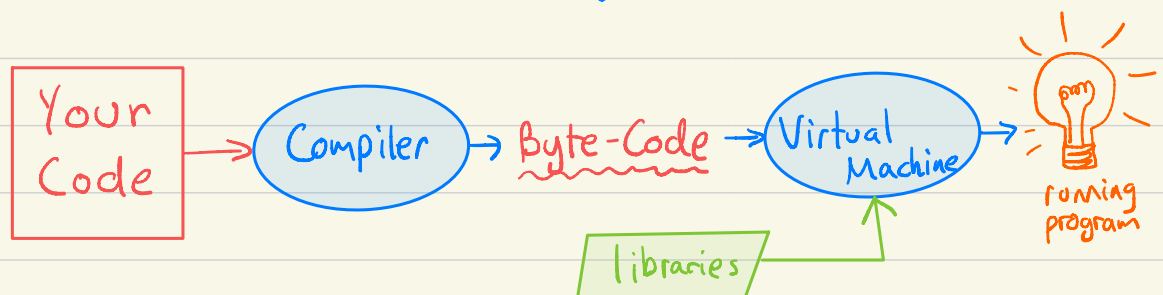
- High level Programming Language.
- Large number of instructions
- Fewer statements

• Programming

- Use an Integrated Development Enviroment (IDE)
- Use a text editor

• How do python programs run?

- Compiler Reads your code
- Compiler converts it into Byte-Code.
 - Byte-Code: instructions understood by Virtual Machine
- Virtual Machine locates necessary libraries.
- Virtual Machine excutes Byte-Code.



• Python Code:

- Use # for comments
- Output messages using print
- Strings "Look like this!"
- Values passed into functions are called Arguments

`print("1+1 is: ", 1+1)`

Diagram illustrating the components of the Python code snippet:

- `print` is labeled as the **function**.
- `"1+1 is: "` is labeled as the **string**.
- `1+1` is labeled as the **Arguments**.

• Errors!

- Compile-Time errors: Syntax
 - Spelling, Punctuation, Capitals
 - Ordering Statements
 - No code compiles
- Run-Time errors: Logic
 - Compiles and executes
 - Results may not be intended
 - Might Crash
 - Harder to find and fix