**Python Definitions**

* **Program** is a set of instructions to perform a task.
* **Specification** – states specifically what the tasks is – input, process (algorithm) and output
* Each line of the program is called a **command / statement (**>>> - python shell prompt (waiting for a command)
* Execute sequence of statements creates a **function – e.g.** def hello():
* The statements of a program are **executed** on after another until the last line.
* Variables have names in programming. E.g. **x** =, **pounds** =, **kilos** =
* During program execution, **variables are created**, and all existing variables have **values**. Old value is **replaced**, if not already created.
* **Assignment statement** is used to **assign a value to variable**. E.g. = (**variable** on left side, and right side – **evaluate** the expression, finds out the **value**).
* X= 12 + 5
* The expression 12 +5 is **evaluated** to 17
* **Variable** x is **assigned** this value, 17.
* Print (“Hello, world!”) – Hello, World! (Displays text)
* Print (“2+3 =”, 2+3) – 2+3 = 5 (**string plus int**)
* Speech marks – doesn’t calculate (**string – never mix quotes)**
* Python allows standard **arithmetic expressions** (x, +, -, /)
* Typing chaos.main() 🡪 tells python to invoke the main function in the chaos module
* Want to do something in a program a certain number of times (in succession, use a **for loop – see chapter 2 – (future value in 10 years)**
* List(range (10)) – this includes numbers from 0 to 9