**CS50P – Lectures 0, 1, 2 Notes**

**Lecture 0 Overview – Functions and Variables**

* Terminal Window - Command Line Interface
* Function is an action which lets you do something within a program.
* The programmer can use the functions to complete certain tasks.
* An argument is an input into a function which changes its behaviour.
* Functions can have ‘side effects’.
* A bug is a mistake within a program, as well as a problem which needs to be solved.
* A Syntax Error refers to having mistake which are made by the coder on the keyboard, such as formatting.
* A variable is a container for a value.
* Comments are notes to yourself within the code, which do not get executed.
* Comments can also be a to-do code.
* Pseudocode is used to express algorithmic code. Allows to outline your program simply.
* A string (str) is a data type. It is a collection of characters.
* **\*objects** means the print function can pass through any number of objects and strings.
* **\n** creates a new line.
* Default value of a **sep=’ ’** is the spaces within the string of a print function. They will be separated by a single space.
* Passing values of printing are called positional values (named parameters).
* Named Parameters are **sep=’ ‘** or **end=””**
* **\** represents an escape character.
* **.strip()** removed whitespace from a string.
* **.capitalize()** is able to capitalize the first letter of the first word in a string.
* **.title()** is able to capitalize the first letter of every word in a string.
* You can also chain function together, such as **.strip().title()**
* **Int** are integers (full numbers, without decimal points)
* **+ - \* / %**
* **int()** is also needed to convert strings to numbers which are used in maths.
* A **float** is a number with a decimal (a real number).
* **def** is used to create a function.
* **scope** refers to the location where a variables value is valid. Where it is available to you to use.
* **return** is used to return a value explicitly itself.
* **\*\*** raises the number to the power.