

**First things First:**

- Text Editors & IDEs
- GCC Compiler
- .exe Files & Console Apps

**Conditional Statements:**

- How logical operators work
- Conditional Operator [Best One-Liner]
- Switch Case [For Menu in App]

**Iterative Statements:**

- Variables after 'for' loop
- Working of a 'for' loop
- Looping Optimizations [like printing even numbers]

**Arrays:**

- 1D Arrays
- 2 [multiple] D Arrays
- Strings & string functions

**Pointers:**

- Using Pointers
  - > Strings
  - > Functions
  - > Array has a constant base-address
- Size of Pointers & Arrays
- Intro to double, triple, etc. pointers
- Array of Pointers
  - > String Arrays

**Functions:**

- Needs for making Functions:
  - > Readability
  - > Modularity [OOP]
  - > Abstraction [OOP]
  - > Reuse
  - > Ease in Debugging
  - > Could be a burden but still a wonderful thing :p
- Pre-defined & User-defined Functions
- Function Prototype & Definition

- Function Arguments & Return Type
- Passing Arguments [Same as assigning value to a Variable]
- Local & Global Scopes
- Call by Value & Reference
  - > Passing Array is Call by Reference
  - > Passing Array decays it to a Pointer
- Returning Strings
- 'scanf()' uses Call by Reference
- Discover return types of pre-defined function & what they return
- Libraries & Making your own header file
- Recursion

### **Structures:**

- Intro & Use [Your own 'Data Type']
  - > Encapsulation [OOP]
- Size of an Object [Actually called a variable]
- Nested Structures
- Use of 'typedef'
- Arrays of Structures
- Passing an object of a Structure in a call
  - > Using Call by Reference for large Objects

### **Dynamic Memory Allocation [DMA]:**

- Intro & Use [Memory Allocation]
- 'malloc()', 'calloc()' & 'realloc()'
- 'sizeof()' & type-casting
- 'free()'

### **File I/O:**

- 'FILE' Data Type
- 'fopen()', opening modes["r", "w", "a"], checking for 'NULL' & 'fclose()'

### **Miscellaneous:**

- Using other Libraries
- Using 'system()' for various things:
  - > CLS, PAUSE
  - > dir, md, rd, etc.
  - > Open other files/exe programs
  - > Most of the 'cmd' commands
- 'const' & Error Handling? ㄒ(ツ)ㄏ