**Week 1 Practical**

**Source Code:** The set of instructions (program) to be followed by the computer written in a language that is familiar to humans.

**Machine Code:** The set of instructions (program) written in a language that makes sense to machines and computers, usually binary (0s and 1s).

**Interpreter:** It is a computer program that executes instructions written in a programming language line by line.

**Compiler:** It is a computer program that first translates the entire code to machine readable form and then executes it all at once.

**2GL:** Second Generation Programming Language is closer to machine language as compared to human language. As such, it can be faster to process but is difficult for people to comprehend. Assembly language is an example of 2GL.

**3GL:** Third Generation Programming Languages are the most popular due to a good balance of usability, portability and efficiency. They are genera-purpose and applicable to just about any type of operation.

E.g., Python, C, C++ etc.

**4GL:** Fourth Generation Programming Language are more abstract and allow developers to focus on ‘what’ they want to solve rather than ‘how’ the program needs to work. They are application- specific for example SQL, R and many others.

**Executable:** A program or file that is able to be run by the computer.

**Expressions:** A mathematical combination of constants, numbers, variables and operators.

**Operators and Operands:** Operators indicate the action (addition, multiplication) whereas operands indicate what items to apply the action to.

**Syntax Errors:** The most common type of errors caused by mistake in the grammar/syntax of the programming language usually a typo.

**Logical Errors:** These errors occur during the run-time when a program is syntactically right, but the underlying logic is poorly designed.