**Unit 16 P2 & Unit 6 P3 Code Submission Portfolio-**

●**Sequence-** Sequences are the main logical structure of algorithms or programs. When creating algorithms or programs, the instructions are presented in a specific correct order. A sequence can contain any number of instructions, but each instruction must be run in the order they are presented.

●**Selection-** Selection is one of the three basic logic structures in computer programming. The other two logic structures are sequence and loop. In a selection structure, a question is asked, and depending on the answer, the program takes one of two courses of action, after which the program moves on to the next event.

All logic problems in programming can be solved by forming algorithms using only the three logic structures, and they can be combined in an infinite number of ways. The more complex the computing need, the more complex the combination of structures.

●**Iteration-** Iteration in programming means repeating steps, or instructions, over and over again. This is often called a 'loop'. Algorithms consist of instructions that are carried out (performed) one after another. Iteration is effectively the process of repeating steps that have already been done.

●**Local & Global Variables-** Global variables are declared outside any function, and they can be accessed (used) on any function in the program. Local variables are declared inside a function and can be used only inside that function. It is possible to have local variables with the same name in different functions.

●**Libraries-** In programming, a library is a collection of precompiled routines that a program can use. The routines, sometimes called modules, are stored in object format. Libraries are particularly useful for storing frequently used routines because you do not need to explicitly link them to every program that uses them. The linker automatically looks in libraries for routines that it does not find elsewhere.

●**Procedures & Functions-** Procedures and functions are the basic building blocks of programs. They are small sections of code that are used to perform a particular task, and they are used for two main reasons. The first reason is that they can be used to avoid repetition of commands within the program.

●**Parameter Passing-** In computer programming, a parameter is a special kind of variable, used in a subroutine to refer to one of the pieces of data provided as input to the subroutine. These pieces of data are the values of the arguments with which the subroutine is going to be called/invoked. An ordered list of parameters is usually included in the definition of a subroutine, so that, each time the subroutine is called, its arguments for that call are evaluated, and the resulting values can be assigned to the corresponding parameters.

In the most common cause, a parameter acts within the subroutine as a new local variable initialized to the value of the argument. But in other cases, e.g. call by reference, the argument variable supplied by the caller can be affected by actions within the called subroutine.