**Abstraction** is the capturing of essential characteristics while disregarding nonessential characteristics, or the process of generalizing from specific instances.

**Loop:** In computer programming, a loop is an instruction or sequence of instructions that is performed repeatedly.

**Iteration**: In a computer program, an ***iteration*** is when the statements within a loop are executed once. The ***iterations*** of a loop are the number of times the loop is executed.

**Conditional Loop**: A ***conditional loop*** is a loop that runs until a certain condition is met. For instance a loop that has a turtle stop moving once it gets to the edge of a map is a conditional loop.

**Iterated Loop**: An ***iterated loop*** is a loop that runs a predetermined number of times. For example, a loop that adds up 10 numbers is an iterated loop.

**Infinite Loop**: An ***infinite loop*** is a loop that runs endlessly, either due to the loop having no terminating condition, having one that can never be met, one that causes the loop to start over, or having a condition that requires user input, such as clicking a button, to stop. For example, a simple screen saver may loop endlessly until the keyboard or mouse is used.

**RGB Color** is a color representation scheme that uses a combination of red, green, and blue mixed together to create colors.

**HSB (or HSL) color** is a color scheme that uses a combination of Hue, Saturation and Brightness (or Lightness) to representation colors.

**Indexed Color** is a color representation scheme used to save computer memory by making a list of the colors you want to use beforehand and giving each of those colors a number, or index, to identify it.

**Complex System**: A ***complex system*** is a collection of simple units or agents or smaller systems interacting in a system according to simple rules. Large scale behaviors of the system are hard to understand and predict and may change, evolve, or adapt.

**Leaderless**: A group of units or agents that have no one agent giving instructions to the others is called “Leaderless”. Leaderless systems can be thought of as decentralized systems.

**Emergent Patterns**: Emergent patterns are patterns that are not specifically programmed or planned, but ***emerge*** from the interaction of individual agents and may become apparent from observation. For example, the patterns of flow that emerge as two large crowds of people walk a street in opposite directions – without any traffic police, or signage or preplanned rules of where each person should walk. The pattern can still be called “emergent” if the agents follow rules that do not directly relate to the pattern. In the traffic example, people could follow rules about not bumping into each other, not fighting, and always trying to find the clearest path ahead in the direction they want to go.

**Nonlinearity**: In computational science, a system that exhibits ***nonlinearity*** (also called a ***nonlinear system***) is a system whose response to the whole is different than the sum of its separate responses to the parts of that whole.

**Self-organization** is a process where some form of global order or coordination arises out of the local interactions between the units or agents of an initially disordered system.

**Variable**: In computer programming, a ***variable*** is storage location that contains a value. This storage location has a name. The value of the variable can change as the program is executed. Variables are generally declared (named), initialized (given an initial value), and modified (have the value changed) during the execution of a program.

**Local Variable**: A ***local variable*** is a variable that is only used in a portion of the program, such as a procedure. It cannot be called in a different portion of the program.

**Abstraction**: A simplification process. Ignoring some details to focus on what is important at that time.

**Levels of Abstraction**: Each level of the abstraction includes things \that can be grouped together in some way.