**Glossary of Terms from “Computational Thinking” (by Jeannette Wing)**

Instruction set -the complete set of all the instructions in machine code that can be recognized and executed by a central processing unit (CPU)

Embedding- to fix an object firmly and deeply in a surrounding mass; or to design and build something as an integral part of a system or device

Dimensional analysis – analysis using the fact that physical quantities to or equated with each other must be expressed in terms of the same fundamental quantities (such as mass, length, or time) for inferences to be made about the relations between them.

Program aesthetics- an idea that takes an interest in power relations that are usually under-acknowledged in technical fields (such as class, capitalism, gender, sexuality, race, colonialism)

Abstraction- the process of filtering out, ignoring the characteristics of patterns that we don’t need in order to concentrate on those that we do. Filtering out of specific details.

Decomposition- involves breaking down a complex problem or system into smaller parts that are more manageable and easier to understand. The smaller parts can then be examined and solved, or designed individually, as they are simpler to work with.

Damage containment – an attempt to confine damage to a certain level within a certain area. Typically before an incident overwhelms resources or increases damage.

Gridlock deadlock- a condition that may happen in a system composes of multiple processes that can access shared resources. A deadlock is said to occur when two or more processes are waiting for each other to release a resource.

Contract interface- interfaces form a contract between the class and the outside world, and this contract is enforced at build time by the compiler. To implement an interface is to promise, to guarantee, that the class will come through on its end of the bargain and implement everything in the interface.

Race condition- occurs when two threads access a shared variable at the same time…Then the first and second thread perform their operations on the value, and they race to see which thread can write the value last to the shared variable.

Heuristic reasoning- In mathematical optimization and computer science means (Greek “I find, discover”) and is a technique designed for solving a problem more quickly when classic methods are too slow or for finding an approximate solution when classic methods fail to find any exact solution.

Algorithm- a specific procedure for solving a well-defined computational program. Which requires an understanding of the alternatives available for solving a computational problem, including the hardware, networking, programming language, and performance constraints that accompany any solution.

Precondition- a condition in computer programming that is a condition or predicate that must always be true just prior to the execution of some section of code or before an operation in a formal specification.

Non-determinism -in computer programming, refers to algorithms, which is an algorithm that even for the same input can exhibit different behaviors on different runs, as opposed to a deterministic algorithm. So basically, there are several ways an algorithm may behave differently from run to run.

Garbage collection – (in computer science) is a form of automatic memory management. It relieves the programmer from performing manual memory management where the programmer specifies what object to deallocate and return to the memory system and when to do so.

Statistical learning- refers to a series of tools for modeling and understanding complex datasets. It’s a new area in statistics which blends with parallel development in computer science, particularly machine learning.

Data structure-a way of organizing and storing data in computers in such a way that we can perform operations on the stored data more efficiently.

Ubiquitous computing – a scenario in which computers become more numerous and fade into the background, providing information to human users and embedding human intelligence and computing capabilities in seemingly everyday objects.

Conceptualizing – in design, is the process of generating ideas for an optimum solution to the design problem.

Rote learning- is the process of memorizing new items as they are encountered.

Basically, each time a new and useful piece of information is encountered, it is stored away for future use.

Bemoan-to express deep grief or distress over, to regard with regret or disapproval