# Glossary of Object-Oriented terms

| **Item** | **Term** | **Definition** |
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| 1 | Class | A user-defined data type that has specific data and includes the methods/functions that operate on that data |
| 2 | Object | An instance of a class which has been created, usually by calling its ‘constructor’ |
| 3 | Encapsulation | The term applied to enclosing the data and functions of a class within that class definition in programming |
| 4 | Information Hiding | Another name for ‘encapsulation’ |
| 5 | Field | A variable that is part of a class; an ‘attribute’ of that ‘thing’ |
| 6 | Method/Function | A piece of code that can operate on a field in an object of a class once that object has been created |
| 7 | Constructor | A special method in a class that creates instances of a class |
| 8 | Inheritance | A mechanism that passes fields and methods from one class to another |
| 9 | “is-a” | A reference to the “direction” of inheritance |
| 10 | Sub-class/subclass | A class which has inherited the data and methods from another class |
| 11 | Superclass | A class which provides data and methods to its subclasses |
| 12 | Visibility | Term applied to the ability of a field or method in a class to be ‘seen’ by another class in the program |
| 13 | Instance | An instantiation of a class; another word for ‘object’ |
| 14 | Instance variable | A variable which ‘belongs’ to each object of a class after it has been instantiated |
| 15 | Class variable | A variable which ‘belongs’ to **the class**, NOT to the objects of that class |
| 16 | Singleton | A class which has only one instance in a program. Ever. |
| 17 | Attribute | Parts of a class that are captured as ‘fields’ or ‘instance variables’ |
| 18 | Traversal | Method of ‘visiting’ all the nodes in a tree structure; 3 types |
| 19 | Module | Organized collection of methods that can be imported into Python programs |
| 20 | Self | A reference to the current instance of a class, used to access variables that belong to that instance |
| 21 | Floor Division | An operator that means dividing and rounding down to the nearest integer |
| 22 | Deque | A data structure which allows both insertion and removal of items from both ends of the structure |
| 23 | Sequential list | A data structure in which the elements are in a certain order, and which can usually be accessed in constant time |
| 24 | Unbounded tree | A tree in which each node may have any number of descendants, without limit, and in which the nodes are not required to have the same number of descendants as each other |
| 25 | Linked List | A data structure in which the elements are contained in nodes that are linked together by a “next” reference |
| 26 | Queue | A data structure that allows insertion at one end and removal at the other end of a list of some kind |
| 27 | Stack | A data structure that only allows insertion and removal at one end |
| 28 | Binary Tree | A data structure in which the elements are nodes, and each node may have at most two descendants |
| 29 | Import | Keyword which allows including other modules of code in Python |
| 30 | Arity | A term which refers to the maximum number of children that any node in a tree is allowed to have. |
| 31 | Quadratic Time | A run time algorithmic evaluation that is based on the square of the number of items being processed |
| 32 | Recursion | Definition of a function or method that calls itself as part of its operation |
| 33 | Linear Time | A run time algorithmic evaluation that is based on the number of items being processed |
| 34 | Internal Node | A tree node that has both a parent [inbound edge] and children [outbound edges] in the tree structure |
| 35 | Logarithmic Time | A run time algorithmic evaluation that is based on the log of the number of items being processed |