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| \_\_init\_\_:  initializer method that is invoked automatically to set a newly created instance’s attributes |
| abstract class:  a class which is a concept which real world objects embody. Often not actually created an instance of it. |
| base condition:  A branch of the conditional statement in a recursive function that does not give rise to further recursive calls. |
| Big O Notation:  Measures the efficiency of an algorithm based off the number of times a block of code must be repeated. It examines the worst case scenario. |
| Binary Search:  only works for sorted lists. It works by comparing the item that needs to be found with the item in the middle of the list. If the middle item is greater than the item needing to be found, the list gets cut into the first half otherwise this continues until there is a list of one. At this point, the final item will be the item that is being searched for if it is in the list. The Big O Notation is making it extremely efficient for all lengths of data sets. The only con is that the list MUST BE SORTED. |
| Bubble Sort:  Goes through the data set and comparing each item to the one on it’s right. If the item on the left is greater they swap places. These comparisons for the whole list repeats based off the length of the list comparing one less item the previous time off the end. The Big O Notation is making this a highly inefficient process if the list is small or highly unsorted |
| Child class:  A class that inherits data and behaviour from a parent class aka sub class or derived class |
| Class :  A class can be thought of as a template for the objects that are instances of it. It defines a data type. A class can be provided by the Python system or be user-defined. |
| class attributes:  One of the named data items that makes up an instance. |
| class methods :  A function that is defined inside a class definition and is invoked on instances of that class. |
| concrete class:  A concrete class is a class that can be used to create an object, this is because the object it is modelled after is a real world object |
| exception handling:  where you test code by having an alternate block of code if the main code doesn’t work |
| Function:  A named sequence of statements that are grouped together and can be called upon |
| GUI:  Graphical User Interface (how your screen looks) |
| Import:  To take in a file  Import … (python module)  Import a text file by fileref = open(“filename”, “r”) and close it with fileref.close() |
| Inheritance:  The process by which a “child” class derives the data and behaviour of a “parent” class. |
| Insertion Sort:  Sorts each item based off the previously sorted item. The first two items then the next one to the previous two then the next to all the previous ones and so on and so forth until the whole list is sorted. Big O Notation making it extremely inefficient except with small sets of data and mostly sorted data sets. |
| Instance:  A realized version of a class. (uses the blueprint of a class to create and object) can have multiple instances of one class |
| Instantiate:  To create an instance variable = class(attributes) |
| Knuth sequence:  Most efficient gap for shell sequence |
| Linear Search:  Linear makes its way through every item checking each item until it has found the correct item or it reaches the end of the data set. Returning the index where it is found or -1 if not found. Big O Notation . Can be used with simple data sets and can be used when the data set is not sorted. But inefficient if the item is at the end of the list or not I the list at all. |
| method overloading: |
| Where there are optional parameters in a method |
| mod and div operators:  returns the remainder and integer division |
| Mutable:  Mutable objects can be altered like lists and dictionary’s |
| Object:  An instance of a class |
| OOP:  Object oriented programming deals with classes containing attributes and methods as the basis of the program |
| parent class:  A class which is a child class derives from. Aka Super class or base class |
| Polymorphism:  Refers to a programming language’s ability to process objects differently depending on their data type or class. It is the ability to redefine methods for derived classes. |
| Pratt sequence:  least efficient sequence for shell sort |
| Recursion:  A function that calls itself. |
| Self:  The parameter that takes in the instance of the class |
| Shell Sort : |
| static method:  A method that has no access to the instance or the class |
| Try:  Variable used for exception handling |