Pointer -points to mem address of variable

\*-dereference operator, allows you to modify value of the variable pointer points to

&-address of operator gives mem address of pointer

Inheritance-when child class inherits data members of a parent class

**Polymorphism**-when the program determines what functions to call **during runtime** instead of determining what function to call when the program is compiled

**Abstract Class-**class that has at least one virtual function

**Static Binding** -The program **knows exactly which functions to call during compile time,** (the binding is known at compile time)

**Dynamic Binding**-The program **dosen’t know what functions to call at compile time** and must **determine** which ones to call **during runtime**

**Virtual Function**-Member function that is declared in a class and **overridden** by a derived class. Used to achieve **runtime polymorphism**

One for loop=O(n) two=O(n^2) recursive=O(log(n)) if they are computing nth term

**Linear Search-O(n) -**Uses one **loop compares value you want with the value of the array at any index up to n**

**Binary Search-O(log(n))-Recursive Function**-requires that the array is sorted. Repeatedly **splits array in half until it finds the value its looking for**

**Selection Sort-O(n^2)-**2 nested loops-**Searches** array for the **smallest number** then **puts it**  at the **front of the array** does this process **n times**

**Bubble Sort**-O(n^2)-2 nested loops, **loops through** the whole array **of size n** and **moves the small numbers one position forward** does this **n times**

**Merge Sort-O(n\*log(n)-**Recursive function, has to **assemble the array of size n**, **repeatedly splits array in half until array size is 1** then **merges the numbers back together in order**

**Von Neuman**

Control Unit -manages operations of fetch execute cycle

**Fetch-**get instructions from memory

**Decode-**deciphers what program is telling the computer to do

**Execute**-carries out the requested action

**Store** -saves the results to Register or Memory

**Stack Overflow**- when the program tries to use more memory then the call stack has available, can happen when a recursive program calls itself excessively

**Call Stack** a buffer that stores requests that need to be handled

**Constructor**- called whenever an object of that class is made

**Destructor** called whenever object is deleted or variable is out of scope