**C++ Cheat Sheet**

* By default the scope of attributes of class in c++ is private.
* **Virtual functions** are used to call the function of derived class using the pointer of the base class. If the function in base class is not declared as virtual, then the function of base class is called.
* You cannot point to a base class using a derived class pointer, because it violates inheritance property and if it were allowed, the derived class can have the visibility of other derived class not in its hierarchy.
* In protected scope, the attributes of the class is visible only to the immediate deriving class and would be private for all the derived class following immediate derived class.
* You cannot access the protected variable directly.
* **Encapsulation** is used to hide the required data from the outside world and can be assigned or accessed only using a defined method. This is also the method where-in the interface is exposed and hiding the implementation from the user.
* **Friend Function and Class** Friend functions are used to get special grant to access the private member and friend class are used to access the private member of the class in which it is declared.
* **Polymorphism** it means “many forms”. This occurs when there is class hierarchies or inheritance. This means that what member function to execute depends on the type of object that invokes the function.
* **Operator overloading**  is where you overload with any of the built in c++ operator. Function of operator overloading has keyword “operator” followed by the operator symbol. These function has a return type and a parameter lists.
* **Function Overloading**  is where you have the same function name (or return type) but different parameter lists or type.
* . is used to access the member of object instance and -> is used to access the member variable via pointers.