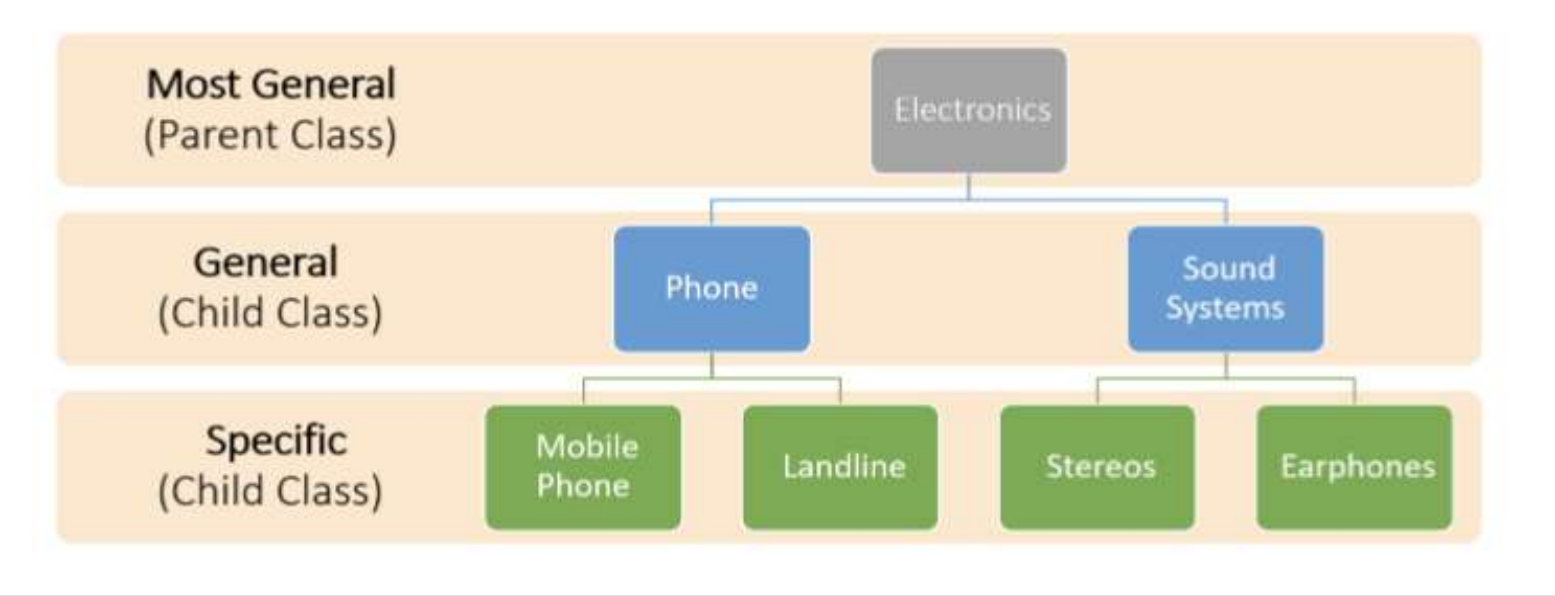
C++ basic Assignments

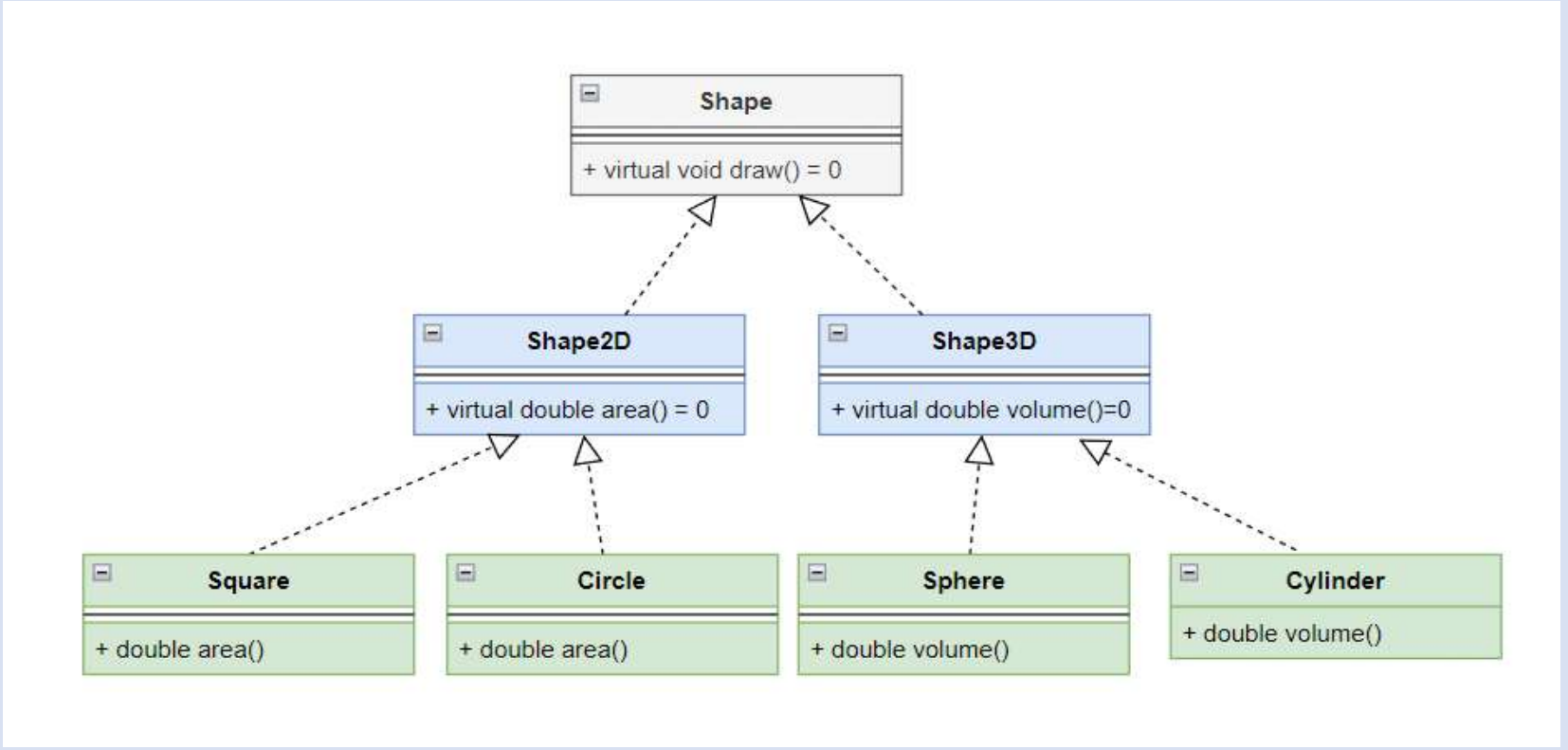
Day 1	
Problem statement	**Comment**
Enlist all the fundamental data types and print their ranges, min & max.	
Declare an array of integer and check its contents in memory window and debug window.	Students are expected to see hex value in memory window and check its dec equivalent
Print table of 19 using for loop.	
Print table of 19 using while loop.	
Print half pyramid & inverted half pyramid using for loops.	30+ Most Asked Pattern Programs in C, C++ and Java | FACE Prep
Print even numbers from 0 to 100.	
Write a function which returns the factorial of given number.	Recursion optional
Define 3 separate functions to swap its contents. (pass by value, pass by reference, pass by address) Print the values before and after swap in caller.	
Declare integer on heap. Draw memory allocation graphically. Verify the same in memory window	
Declare reference to above dyanmocally allocated memory	

Day 2	
Problem statement	**Comment**
Define struct point3 with x,y,z as member data.	
Write parameter CTOR for point3 struct. Create 2 object one on stack and one on heap. Note its CTOR and DTOR calls and scope.	Print inside constructor and desctrutor and add scope to variable on stack and heap - this helps in understanding scope when memory is allocated on stack or heap
Define a class PointCloud which holds an dynamic array of Point3.	Observe memory allocation by adding print statements in constructor and desctructor
Delete memory in DTOR of PointCloud class	
Write member function to return point by index. Return const object. Try to change contents at client code	

Day 3	
Problem statement	**Comment**
Define class line which is composition of 2 points	Predict the scope of point objects. Cross check with CTOR and DTOR.
Define class triangle which is composition for 3 points	
Define class utilty having static method to calculate distance between 2 points	
Define a method perimeter in class triangle which uses utility distance function	
Define class room. Create multiple instances of rooms. Define class chair. Aggregate chairs within room.	Predict the scope of chair objects. Cross check with CTOR and DTOR.
Define following hierarchy of Electronics items. Identify properties and behaviours for each class.	



Day 4	
Problem statement	**Comment**
Draw shape hierarchy on paper and implement it in application.	
Code it on interface of Shape, Shape2D and Shape3D	



Day 5	
Problem statement	**Comment**
Declare macro to start namespace and end namespace. Use these macro to start and end namespace	
Define class Point3 under Geometry namespace and Point3 in Graphics namespace. Use both these classes in client code.	
Create 2 projects. 1 dll and other executable.	Dll could be numberCalculus which provides services like addition, substraction etc. Client exe is Calucator.
Call dll functions from executable.	