Objective: To familiarize students with inheritance concepts.

Theory:

Inheritance: Process of creating new class from one or more existing class, the properties of existing class is extended to new class, the new class is called derived class and existing class is called base class

Types of Inheritance:

□	Single	□	Multiple	□	Multi-level
□	Hierarchical	□	Hybrid	□	Multipath

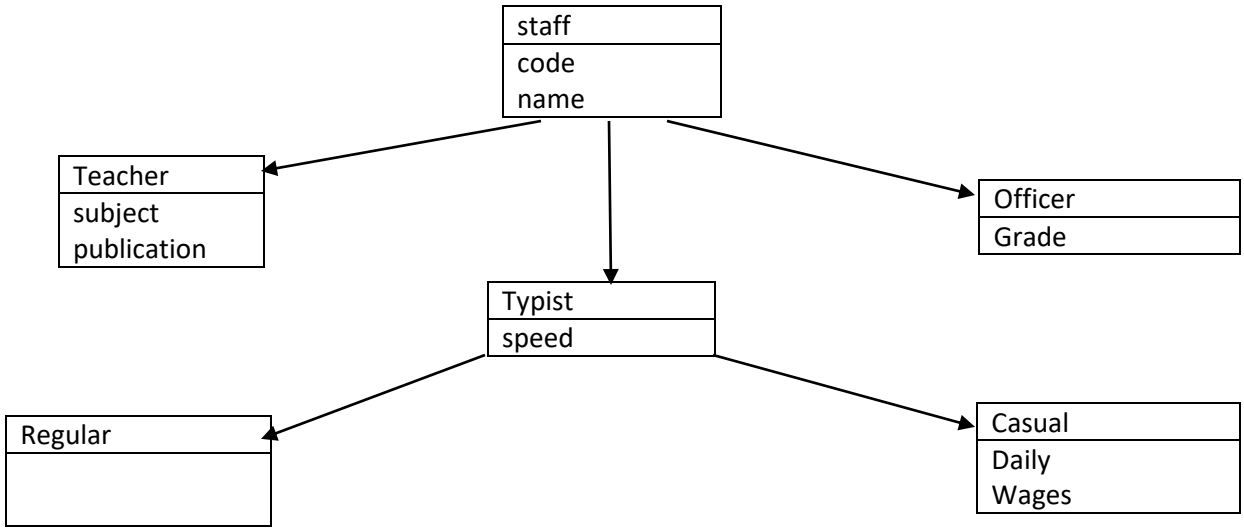
Ambiguity: In OOP ambiguity means duplication of members due to inheritance, In child class there will be 2 or more member with same name from inherited class.

Virtual Base Class: To avoid ambiguity we can make the common base class as virtual base class

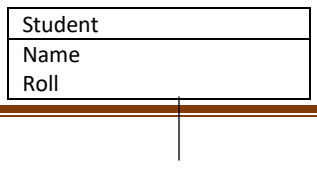
Container Class: Class consists of object of one class in another object

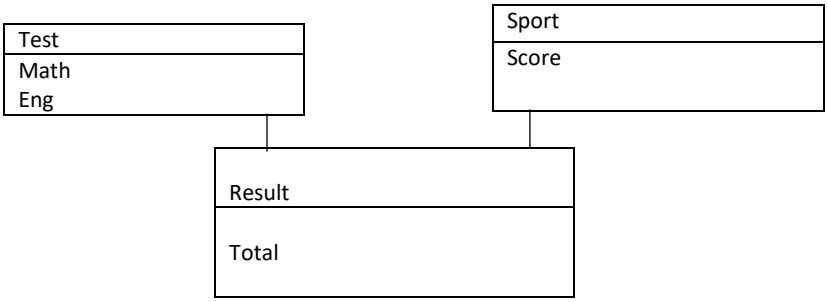
Programs:

1. An educational institution wishes to maintain a database of its employees. The database is divided into a number of classes whose hierarchical relationship are shown below. The figure also shows minimum information requires for each class. Specify all the classes and define functions to create database and retrieve individual information when required.

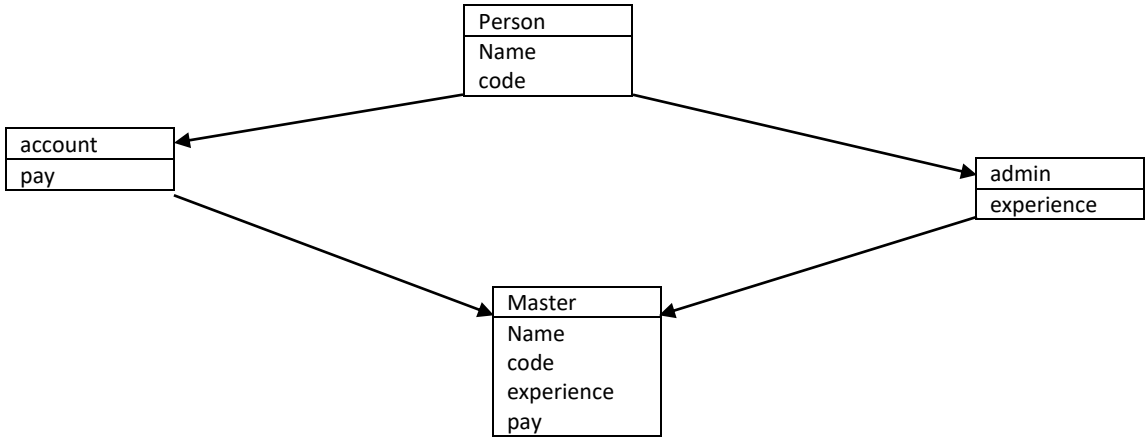


2. Implement the below given class diagram in c++. Assume necessary functions yourself.





3. Consider a class network given below. The class master derives information from both account and admin classes which in turn derive information from the class person. Define all the four classes and write a program to create, update and display the information contained in master objects.



4. Rewrite the above program using constructor on each class to initialize the data members.