

Object Oriented Programming (Assignment Questions)

Question 1 : Create a class to store Complex numbers. Using operator overloading, create the logic to subtract one complex number from another.

Note - In Complex numbers, the real part of 1st gets subtracted from the real part of 2nd number. Same goes for the imaginary part.

Question 2 : Create a class **BankAccount** with private attributes *accountNumber* and *balance*. Implement public methods *deposit()*, *withdraw()*, and *getBalance()* to manage the account.

Question 3 : Create a base class **Person** with attributes *name* and *age*.
Derive a class **Student** from **Person** and add an additional attribute *studentID*.
Implement a method *displayStudentInfo()* in the **Student** class to display all details.

In main function Student class object will be created in this format:

```
Student student("Alice", 20, "S12345");
```

Note - When we initialize an object of a derived class, the base class part has to be constructed first.

If we don't initialize it ourselves in the derived class' constructor by calling one of its constructors, the compiler will attempt to use the default constructor of the base class.

To invoke the parent's parameterized constructor in Child's constructor, syntax is :

```
Child(int x) : Parent(x)  
{ ..... }
```