

Object Oriented Programming (Assignment Solutions)

Question 1 :

//Only overloaded Operator function is given, rest is already covered in Lecture.

```
Complex operator - (Complex &obj) {  
    int resReal = this->real - obj.real;  
    int resImg = this->img - obj.img;  
    Complex res(resReal, resImg);  
    return res;  
}
```

Question 2 :

```
class BankAccount {  
    private:  
        int accountNumber;  
        double balance;  
  
    public:  
        BankAccount(int accNum, double bal) {  
            accountNumber = accNum;  
            balance = bal;  
        }  
  
        void deposit(double amount) {  
            balance += amount;  
        }  
  
        void withdraw(double amount) {  
            if(amount <= balance) {  
                balance -= amount;  
            } else {  
                cout << "No sufficient balance for this withdrawal.\n";  
            }  
        }  
  
        double getBalance() {
```

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```
        return balance;
    }
};

int main() {
    BankAccount myAccount(123456, 500.0);
    myAccount.deposit(150.0);
    myAccount.withdraw(100.0);
    cout << "Current Balance: Rs." << myAccount.getBalance() << endl;
    return 0;
}
```

Question 3 :

```
class Person {
protected:
    string name;
    int age;

public:
    Person(string n, int a) {
        name = n;
        age = a;
    }
};

class Student : public Person {
private:
    string studentID;

public:
    Student(string n, int a, string id) : Person(n, a) {
        studentID = id;
    }

    void displayStudentInfo() {
        cout << "name : " << this->name << endl;
        cout << "age : " << this->age << endl;
        cout << "studentId : " << this->studentID << endl;
    }
};
```

```
int main() {  
    Student student("Alice", 20, "S12345");  
    student.displayStudentInfo();  
    return 0;  
}
```