Oops object oriented programming system in c++

Class and object :--

```cpp
#include <iostream>
using namespace std;

class Student {
public:
    string name;
    int age;

    void display() {
        cout << "Name: " << name << endl;
        cout << "Age: " << age << endl;
    }
};

int main() {
    Student s1;  // Object

    s1.name = "Aparna";
    s1.age = 20;

    s1.display();

    return 0;
}
```

Encapsulation :-

```cpp
#include <iostream>
using namespace std;

class BankAccount {
private:
    int balance;

public:
    void setBalance(int b) {
        balance = b;
    }

    int getBalance() {
        return balance;
    }
};

int main() {
    BankAccount acc;

    acc.setBalance(5000);
    cout << "Balance: " << acc.getBalance() << endl;

    return 0;
}
```

Abstraction:-

```cpp
#include <iostream>
using namespace std;

class ATM {
private:
    int pin = 1234;

public:
    void checkPin(int userPin) {
        if(userPin == pin)
            cout << "Access Granted!" << endl;
        else
            cout << "Wrong Pin!" << endl;
    }
};

int main() {
    ATM obj;
    obj.checkPin(1234);

    return 0;
}
```

✓ Single Inheritance

```cpp
#include <iostream>
using namespace std;

class Animal {
public:
    void eat() {
        cout << "Animal is eating" << endl;
    }
};

class Dog : public Animal {
public:
    void bark() {
        cout << "Dog is barking" << endl;
    }
};

int main() {
    Dog d;
    d.eat();
    d.bark();

    return 0;
}
```