# CAP444
# OBJECT ORIENTED PROGRAMMING USING C++


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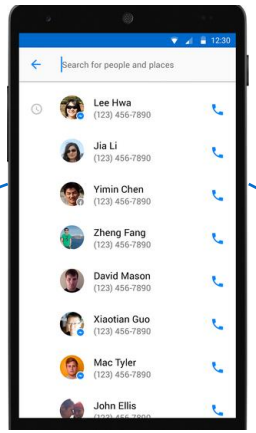
father

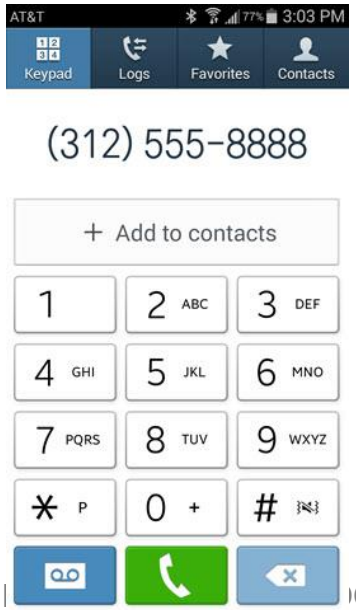
mother

child

## More examples of inheritance:




**Contact List**

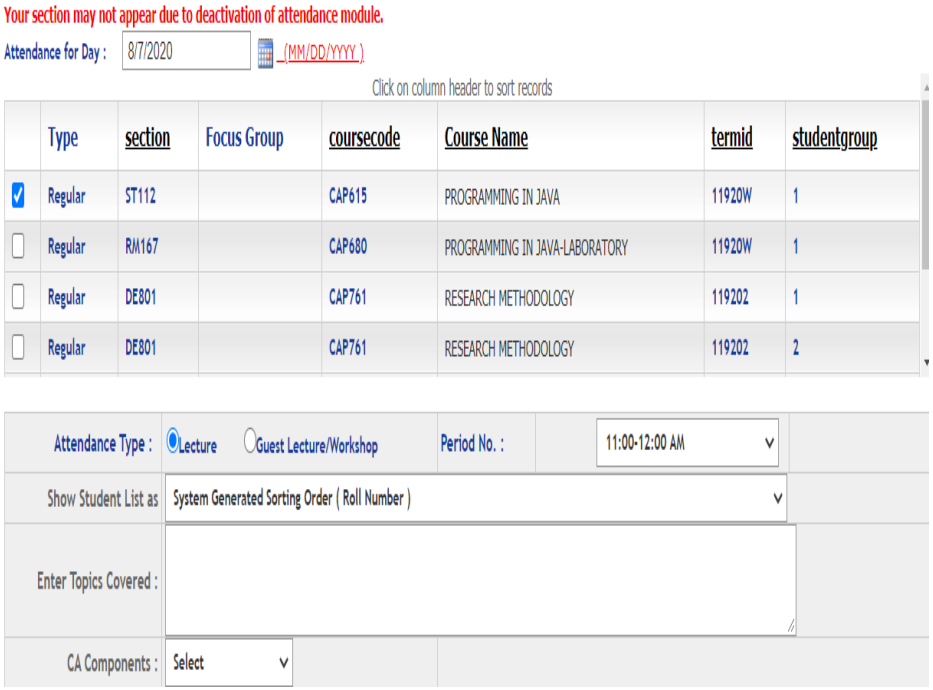



## More examples of inheritance:

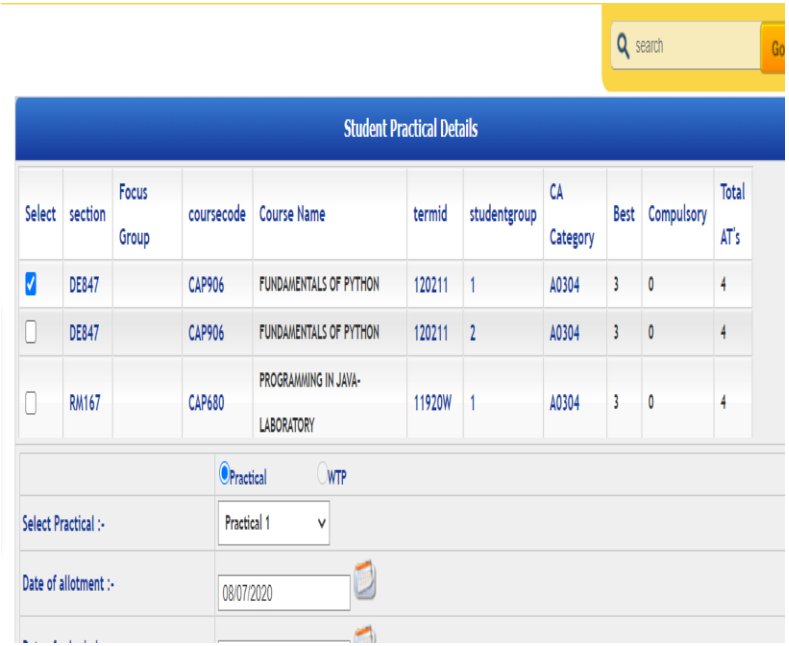
### Students

| RegistrationNumber | Stream |
|---|---|
| 11601434 | CAP - MCA |
| 11604082 | CAP - MCA |
| 11616750 | CAP - MCA |
| 11907267 | CAP - MCA |
| 11908953 | CAP - MCA |
| 11909448 | CAP - MCA |
| 11909861 | CAP - MCA |
| 11910431 | CAP - MCA |
| 11910924 | CAP - MCA |
| 11911831 | CAP - MCA |
| 11814205 | CAP - MCA |
| 11915821 | CAP - MCA |
| 11915858 | CAP - MCA |
| 11916426 | CAP - MCA |
| 11900044 | CAP - MCA |
| 11901413 | CAP - MCA |
| 11901220 | CAP - MCA |

### Students in Attendance Module

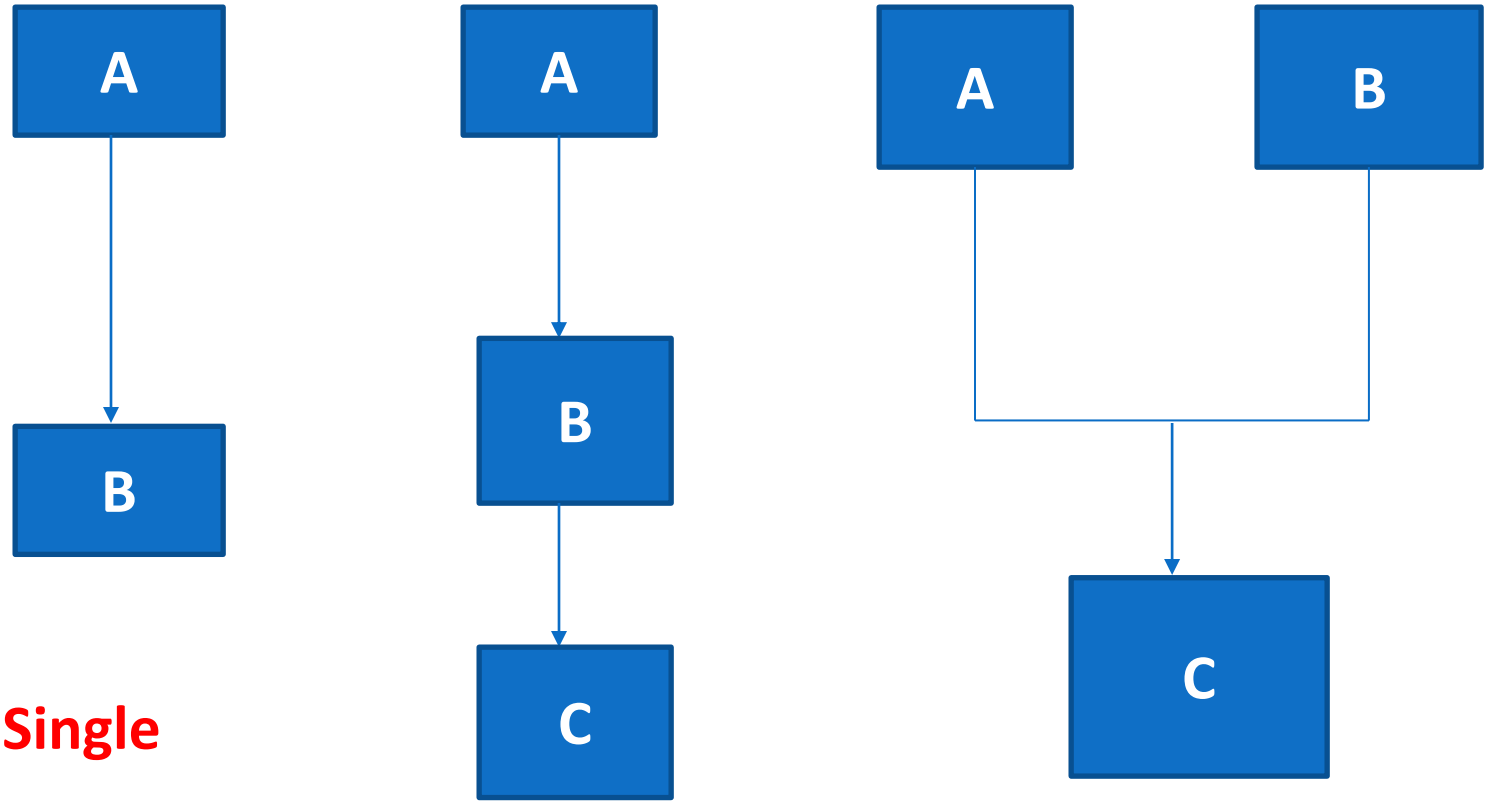


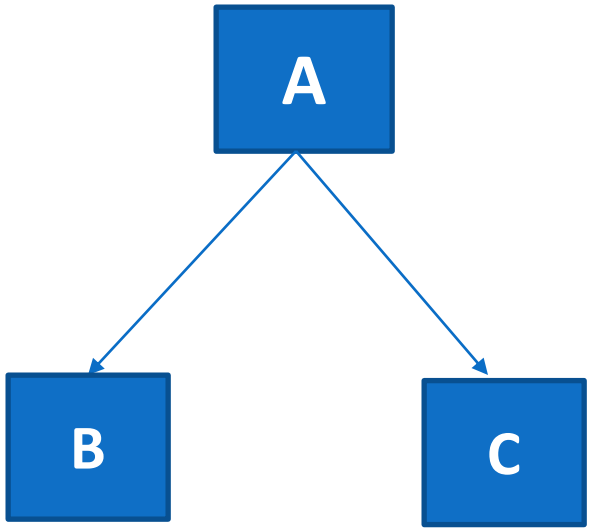

### Same Students in CA Module



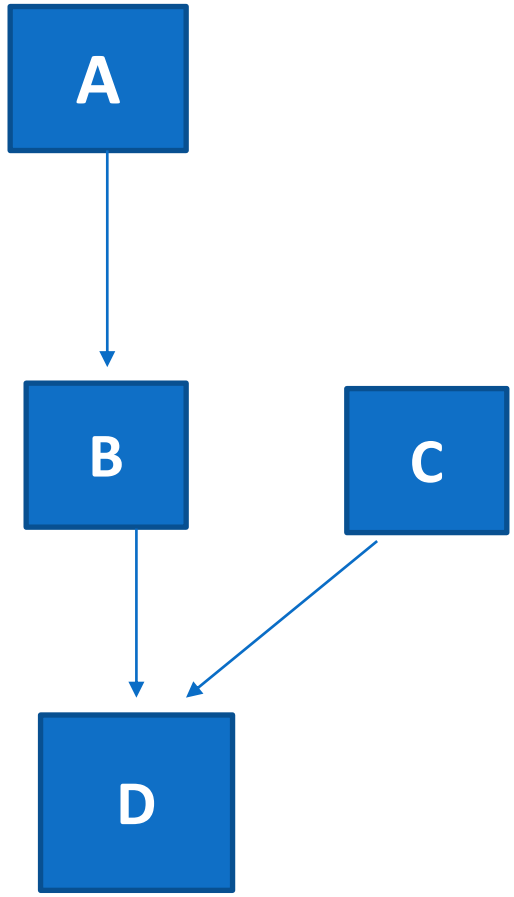
# Inheritance: types of inheritance

- One class can hire properties from other class
- Advantages: Reusability






**Hierarchical Inheritance**




**Hybrid Inheritance**

Which among the following best defines single level inheritance?

A) A class inheriting a derived class

B) A class inheriting a base class

C) A class inheriting a nested class

D) A class which gets inherited by 2 classes

# Single inheritance:

Syntax:

```
class derive_class_name : access_mode
base_class_name
{
  //body of derive_class
};
```

# Multiple Inheritance:

```
class derive_class_name : access_mode
base_class1, access_mode base_class2, ....
{
  //body of derive_class
};
```

| Base class member access specifier | Type of Inheritence | | |
|---|---|---|---|
| | Public | Protected | Private |
| Public | Public | Protected | Private |
| Protected | Protected | Protected | Private |
| Private | Not accessible (Hidden) | Not accessible (Hidden) | Not accessible (Hidden) |

```
class base_class
{
//base class members (x, y)
};
class derive_class : access_Specifier base_class
{
//base class members (x, y)
//derive class members (a,b)
};
```

Which among the following is correct for a hierarchical inheritance?

a) Two base classes can be used to be derived into one single class

b) Two or more classes can be derived into one class

c) One base class can be derived into other two derived classes or more

d) One base class can be derived into only 2 classes

## Any Query?