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Module 7 -Hybrid Inheritance in C Plus Plus

Inheritance in C Plus Plus

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Hybrid (Virtual) Inheritance

Hybrid inheritance is a combination of two or more types of inheritance.

Syntax:

```
class Base {
    // Base class members
};

class Derived1 : virtual public Base {
    // Derived1 class members
};

class Derived2 : virtual public Base {
    // Derived2 class members
};

class Derived3 : public Derived1, public Derived2 {
    // Derived3 class members
};
```

Solved Example:

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

class Animal {
public:
    void eat() {
        cout << "I can eat!" << endl;
    }
};

class Mammal : virtual public Animal {
};

class Bird : virtual public Animal {
};

class Bat : public Mammal, public Bird {
};
```

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```
int main() {  
    Bat b;  
    b.eat(); // No ambiguity due to virtual inheritance  
    return 0;  
}
```

When to Use:

- You need a combination of multiple and multilevel inheritance but want to avoid redundancy and the diamond problem.
- Classes share a common base, but intermediate classes add their functionality.

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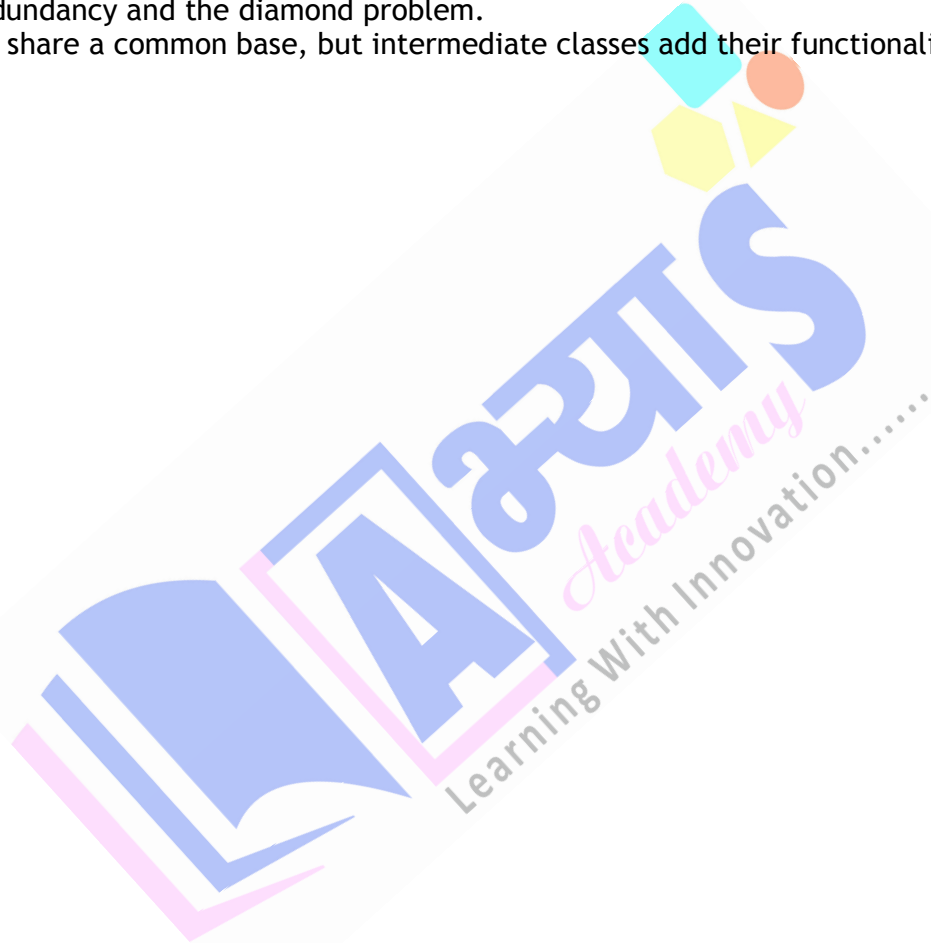
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