C++ in depth

Hybrid inheritance

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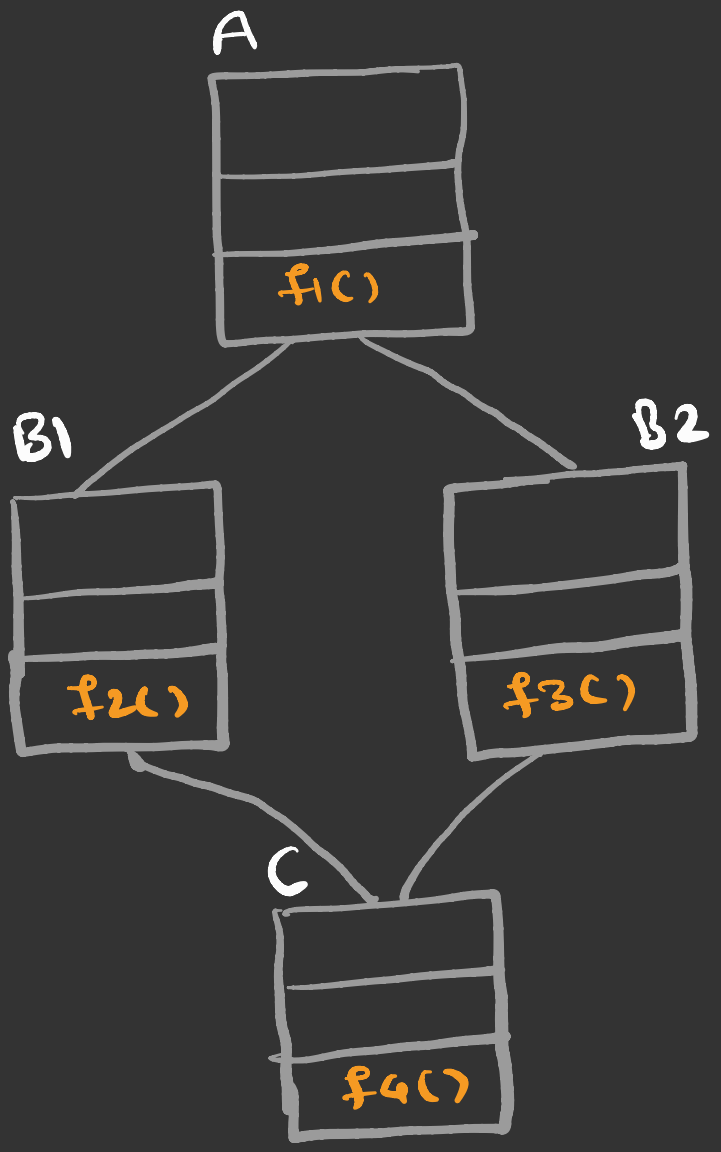
Agenda

1. Hybrid Inheritance
2. Diamond Problem
3. Virtual Base class

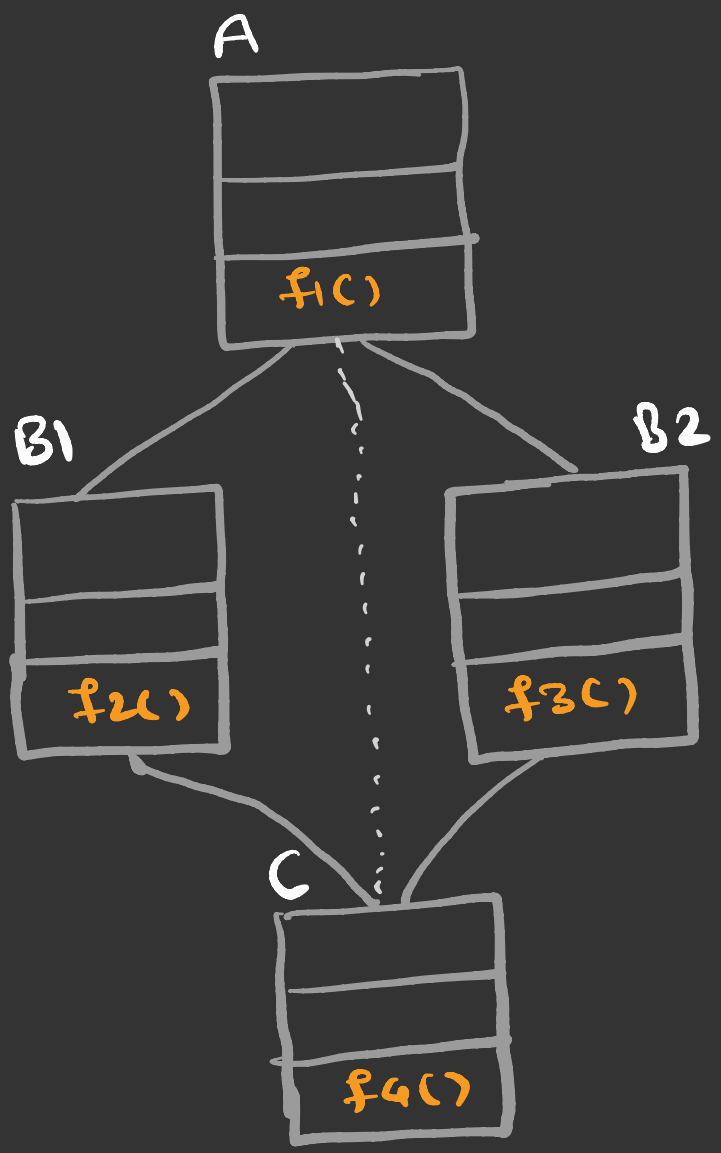
Hybrid Inheritance



Diamond Problem
or
Diamond of Death

```
class A
{
  public:
    void f1(){...}
};
class B1 : public A
{
  public:
    void f2(){...}
};
class B2 : public A
{
  public:
    void f3(){...}
};
class C : public B1, public B2
{ public:
    void f4(){...}
};
```

```
{
  C obj;
  obj.f4();   C
  obj.f3();   B2
  obj.f2();   B1
  obj.f1();   Error
}
```



Dis-inheritance
virtual base class

```
class A
{
  public:
    void f1(){...}
};
class B1 : virtual public A
{
  public:
    void f2(){...}
};
class B2 : virtual public A
{
  public:
    void f3(){...}
};
class C : public B1, public B2
{ public:
    void f4(){...}
};
```

```
{
  C obj;
  obj.f4();
  obj.f3();
  obj.f2();
  obj.f1();
}
```