



# ACTOR 5

A Polymorphism Example

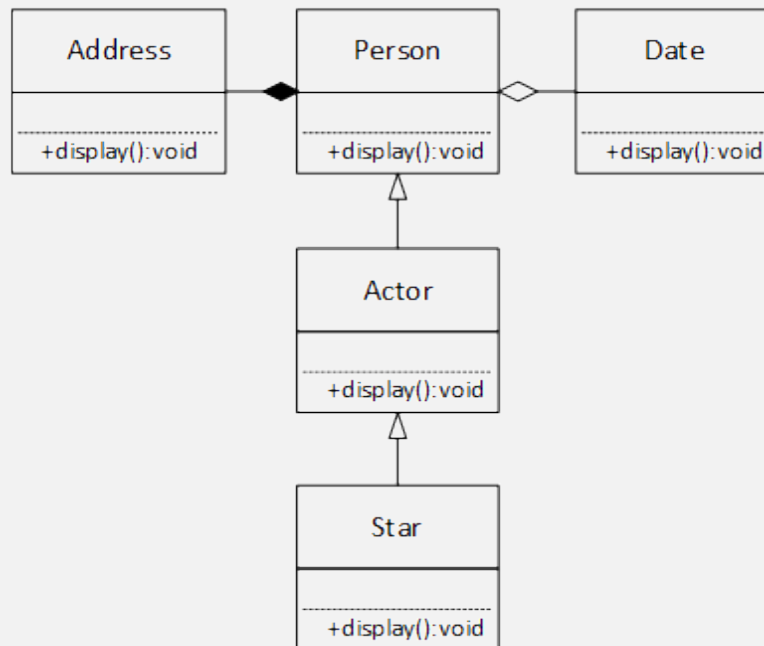


# POLYMORPHISM REQUIREMENTS

- Inheritance
- Function overriding
- A pointer or reference variable
- Upcasting
- One or more virtual functions

# SATISFYING POLYMORPHISM REQUIREMENTS

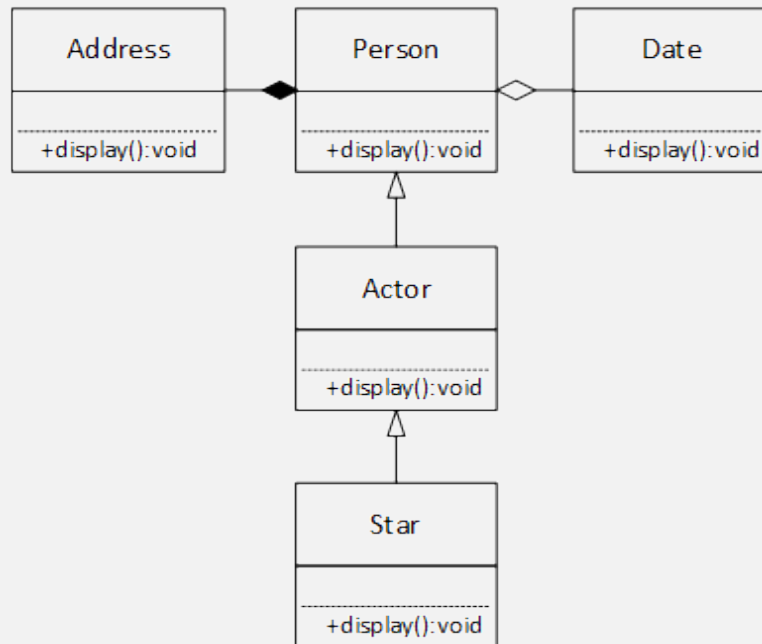
## CLASS ARCHITECTURE



## CLIENT

- `Person* s2 = new Star(...);`
- `function(Person* new(star(...)));`

# virtual: THE FINAL REQUIREMENT



```
virtual void display()
{
    cout << name << endl;
    addr.display();
    if (date != nullptr)
        date->display();
}
```

# POLYMORPHIC VS. NON-POLYMORPHIC BEHAVIOR

```
int main()
{
    Person* s2 =
        new Star("John Wayne", "Cranston Snort", 5000000,
                "123 Palm Springs", "California");

    s2->setDate(1960, 12, 25);
    s2->display();
    cout << endl;
    cout << *s2 << endl;

    return 0;
}
```



```
CList  people;  
  
Star* s = new Star(...);  
people.insert(s);  
  
Actor* a = new Actor(...);  
people.insert(a);  
  
Person* p = new Person(...);  
people.insert(p);  
  
people.list();
```

AN EXTENDED  
POLYMORPHISM  
EXAMPLE

