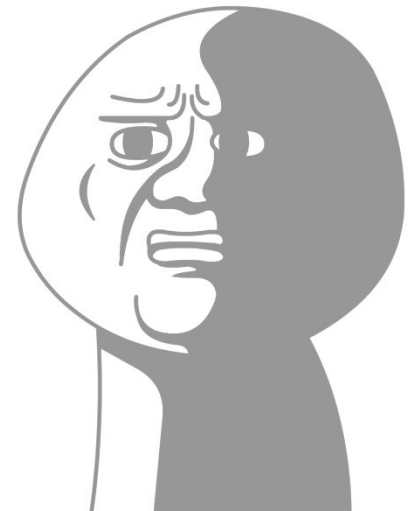# Object-oriented Programming

Inheritance - I

Object Relationship

- **is-a** relationship
- **has-a** relationship

Object Relationship

- **is-a** relationship

- **has-a** relationship

PRO TIP **Use common sense**

has-a **Relationship**

- In a *has-a* relationship, an object contains one or more objects of other classes as members

A car **has a** steering wheel ✅
An office **has a** department ✅

A car **is a** steering wheel ❌
(doesn't make any sense so it must not be a correct relationship)

has-a **Relationship**

```
class Office
{
    Department d;
    // other members
};
```

is-a Relationship

- Sometimes, one class **is** an extension of another class

A car **is a** vehicle ✔
Cricket **is a** sport ✔

A car **has a** vehicle ✗
(doesn't make any sense so it must not be a correct relationship)

is-a **Relationship**

- The extended (or child) class contains all the features of its base (or parent) class, and may additionally have some unique features of its own

- The key idea behind **Inheritance**

Next Lecture

- Inheritance!