

# Base and Derived Classes Exercises

- Imagine we have two classes A and B
- What is the syntax for defining B as a subclass of A?

`class B : public A`

- Write a constructor for B that takes no arguments and has no body

`B() : A () {}`

- If A has a member a of type int and B has a member b of type double, write a constructor for B that performs the necessary initialization (and has no constructor body)

```
B(double d, int i) : A(i), b(d) {}
```

- What is the syntax for defining another class C as a child class of B?

```
class C : public B {  
    ...  
};
```

- What is the purpose of the final keyword?
  - If a class is declared as final, it cannot be used as a base class
  - Classes cannot be derived from it