“Multiple Inheritance”

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...What?

Multiple Inheritance?

First, inheritance:

“subclass”
receives methods
and attributes
from the
“super class”

Multiple Inheritance?

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} “subclass” receives methods and attributes from the “super class”

Multiple Inheritance?

First, inheritance:

Take
Override
Modify

} “subclass” receives methods and attributes from the “super class”

Multiple Inheritance?

First, inheritance:

Take

```
class Animal(object):
    fur = True

    def sleep(self):
        print “ZZZZZzzz”


class Squirrel(Animal):
    pass
```

Multiple Inheritance?

First, inheritance:

Override

```
class Animal(object):
    tail = “short”

    def eat(self):
        print “Already in mouth”


class Squirrel(Animal):
    tail = “long”

    def eat(self):
        print “Is it an acorn?”
```

Multiple Inheritance?

First, inheritance:

```
class Animal(object):
    def sleep(self):
        print “ZZZZZzzz”


class Bear(Animal):
    def sleep(self,season):
        if season == “Winter”:
            super().sleep()
        else:
            print “Must. Find. Food.”
```

Modify

Multiple Inheritance?

First, inheritance:

Modify

```
class Animal:
    def sleep(self):
        print “ZZZZZzzz”


class Bear(Animal):
    def sleep(self,season):
        if season == “Winter”:
            super(Bear,self).sleep()
        else:
            print “Must. Find. Food.”
```

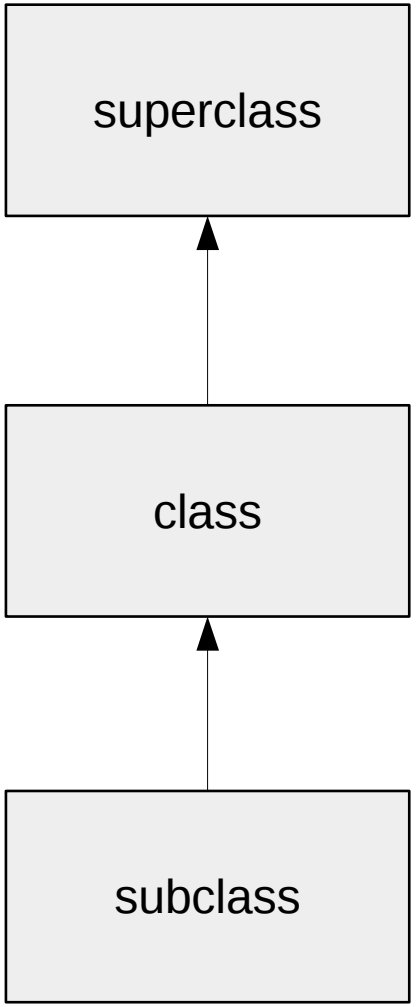
Multiple Inheritance?

First, inheritance:

Take
Override
Modify

} “subclass” receives methods and attributes from the “super class”

Multiple Inheritance?



Class hierarchy diagram

Multiple Inheritance?

```
class Animal(object):
    fur = True

class Bear(Animal):
    fat = True

class Squirrel(Animal):
    tail = “long”
```

Multiple Inheritance:

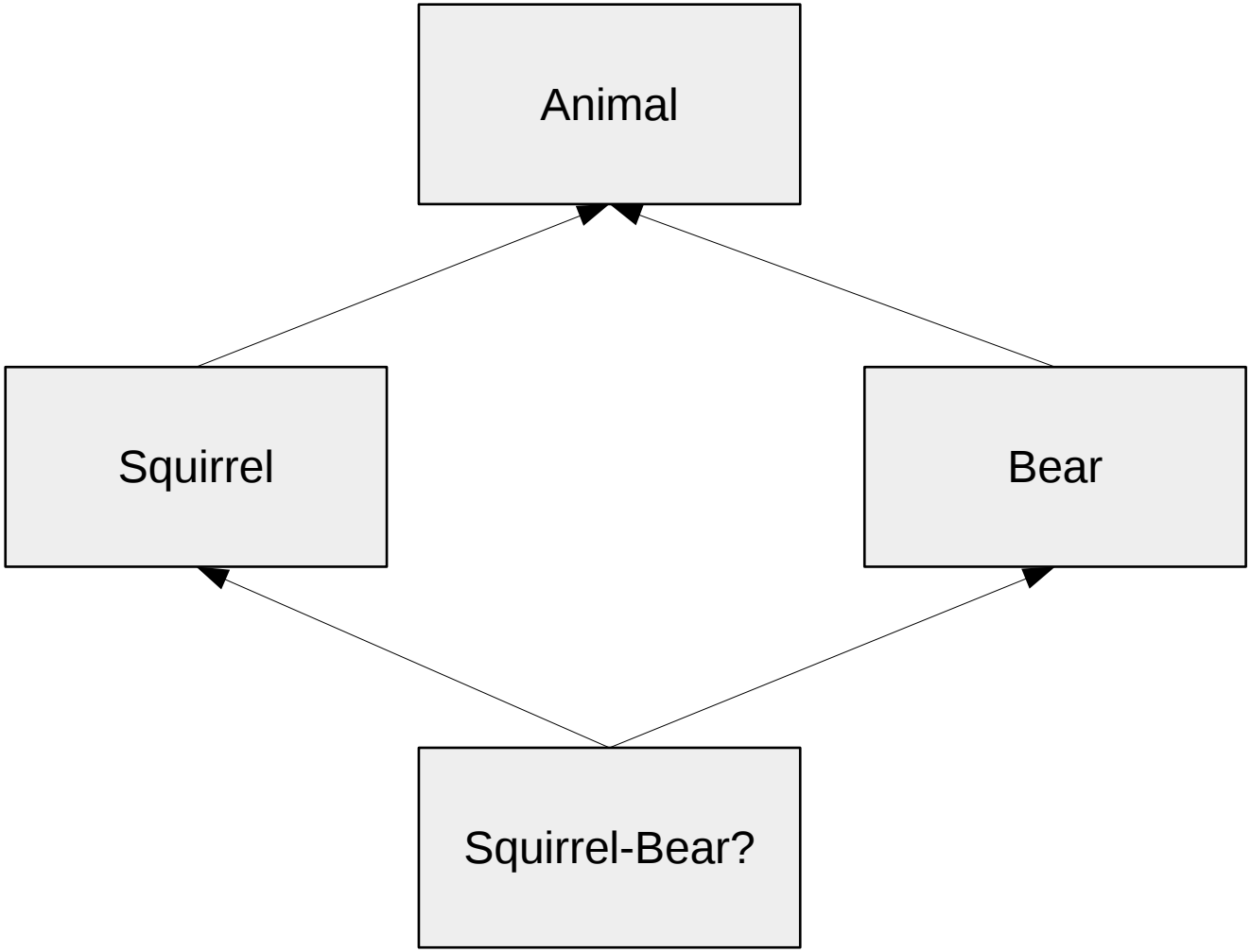
```
class Animal(object):
    fur = True

class Bear(Animal):
    fat = True

class Squirrel(Animal):
    tail = “long”

class SquirrelBear(Squirrel, Bear):
    pass
```

Multiple Inheritance:



Multiple Inheritance:

```
class Animal(object):
    fur = True
    tail = “short”

    def sleep(self):
        print “ZZZzzzz”
    def eat(self):
        print “Already in mouth”
```

```
class Squirrel(Animal):
    tail = “long”

    def eat(self):
        print “Is it an acorn?”

    def make_noise(self):
        print “Chirp”
```

```
class Bear(Animal):
    fat = True

    def sleep(self,season):
        if season == “Winter”:
            super(Bear,self).sleep()
        else:
            print “Must. Find. Food.”

    def make_noise(self):
        print “RAAWWR”
```

```
class SquirrelBear(Squirrel,Bear):
    pass
```

Multiple Inheritance!

Conflicts are resolved by:

“Method Resolution Order”

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“Method Resolution Order”

```
SquirrelBear.__mro__()
```

Multiple Inheritance.

- Avoid unless necessary

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- Be careful and consistent - fully understand the MRO!

Multiple Inheritance.

- Avoid unless necessary
- Be careful and consistent - fully understand the MRO!
- Consider modules