

Covariant in dart



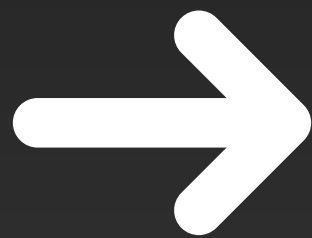
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Swipe



It basically means '**this class or its subclasses**'. It means types that are **equal or lower in the type hierarchy**.

Let's look into an example.



Swipe



```
1  abstract class Fruit {}
2  class Apple extends Fruit {}
3  class Banana extends Fruit {}
4  abstract class Mammal {
5      void eat( Fruit f);
6  }
7  class Human extends Mammal {
8      // Works fine
9      @override
10     void eat(Fruit f) => print("Fruit");
11 }
12 class Monkey extends Mammal {
13     //Error: 'Monkey.eat' ('void Function(Banana)') isn't a
14     //valid override of 'Mammal.eat' ('void Function(Fruit)').
15     @override
16     void eat( Banana f) => print("Banana");
17 }
```

Instead of **eat(Banana f)**, we should have written **eat(Fruit f)** inside Monkey because the superclass method is asking for Fruit.

To fix this error,
we 've two options.

1. Add the keyword 'covariant' in
the super class method
(Best method)
2. Add the keyword 'covariant' in
the overridden method.



1. Add the keyword 'covariant' in the super class method (Best method)

```
1  abstract class Fruit {}
2  class Apple extends Fruit {}
3  class Banana extends Fruit {}
4  abstract class Mammal {
5      //covariant is added
6      //So it allows Fruit and its subclasses
7      void eat(covariant Fruit f);
8  }
9  class Human extends Mammal {
10     // Works fine
11     @override
12     void eat( Fruit f) => print("Fruit");
13 }
14 class Monkey extends Mammal {
15     //Works fine
16     @override
17     void eat(Banana f) => print("Banana");
18 }
```



2. Add the keyword 'covariant' in the overridden method.

```
1  abstract class Fruit {}
2  class Apple extends Fruit {}
3  class Banana extends Fruit {}
4  abstract class Mammal {
5
6      void eat( Fruit f);
7  }
8  class Human extends Mammal {
9      // Works fine
10     @Override
11     void eat( Fruit f) ⇒ print("Fruit");
12 }
13 class Monkey extends Mammal {
14     @Override
15     //covariant is added
16     //So it allows Fruit and its subclasses
17     void eat(covariant Banana f) ⇒ print("Banana");
18 }
```





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