WHAT IS **DEPENDENCY INJECTION?**



Definition:

> Dependency injection means giving an object its instance variables.

Types of dependency injection:

- > Property Injection.
- > Constructor Injection.
- > Method Injection.

```
class LibraryViewModel {
    var library = Library()
}
//In the code above we have a LibraryViewModel who carries and instantiates the property library, thus, creating it's own dependency.
```

Property Injection:

```
class LibraryViewModel {
    var library = Library?
}
let libraryViewModel = LibraryViewModel()
let library = Library()
libraryViewModel.library = library

//Here have the same view model object, but now it is no longer responsible for creating its own dependency.
```

In this particular example, the dependency is injected into the LibraryViewModel via the library property and it receiving it from the outside. This kind of dependency injection is called property injection.

Constructor Injection:

```
class LibraryViewModel {
    var library: Library
    init(library: Library) {
        self.library = library
    }
}
```

let library = LibraryViewModel(library: Library)

//Here we see that our dependency is located in the constructor portion of the code and is responsible for initialising our entire LibraryViewModel through this one property.

//In iOS, this type of injection is often preferred because it prevents us from using an object that isn't fully configured or has any missing pieces.

Method Injection:

```
//Next we have method injection, and if you're guessing that this is where we inject dependencies through our methods, you are correct! Here is an example of method injection at play.
```

```
protocol LibraryManager {
    func deleteAllBooks(in library: Library)
}
```

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