ViewBinding and DataBinding

ViewBinding Definition:

 View binding is library that gives you the ability to replace findViewById with generated binding objects to simplify code. View Binding improves your program because you can catch compile errors before you ship your app unlike findViewById, which gives runtime errors: this means that users will experience the code errors instead of programmer.

ViewBinding Setup:

 You need to configure/change your gradle.build file to include the following code lines

```
// Android Studio 4.0
android {
    buildFeatures {
       viewBinding = true
    }
}
```

How Binding works

 Android studio creates a binding class for every layout holds the references of view in your layout.



- Note that this binding object is generated automatically with the following rules in place:
- Layout file activity_main.xml becomes ActivityMainBinding binding object
- View IDs within a layout become variables inside the binding object (i.e binding.tvLabel)

Binding code generated by Android Studio

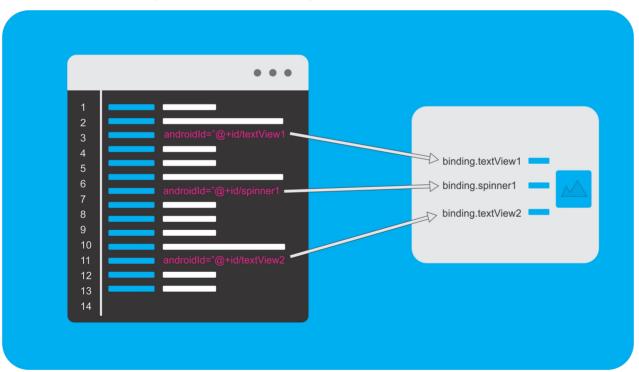
Android Studio auto generates this code and binds your layout Class to your variable using this statement

```
private lateinit var binding: ActivityMainBinding

[ private lateinit var binding: ActivityMainBinding ]
    override fun onCreate(sacedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        binding = ActivityMainBinding.inflatte(layoutInflater)
        setContentView(binding.root)
```

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How ViewBinding and Databinding creates the your layout view references



ViewBinding Advantages:

- Null-safe: with view binding, you no longer need to do null check on a view while using on it, as the Binding class generates directly from the layout file it contains the views within the layout
- Type-safe: Type safety is one of the most significant advantages in view binding, If you try
 to assign text watcher to a button, it won't accept it because the binding class contians the
 reference with the appropriate view type
- Ease of use: View Binding sole purpose is to replace the use of findbyld unlike dataBinding, the library is small and does not take much time to compile.