Activity

This lesson explains what Android activity is.

Activity is one of the core components of the Android; it represents one screen of the application user interface.

Usually, an Android application consists of several activities, e.g. "Travel Blog" application may contain the following activities:

- *LoginActivity* - represents login flow
- *ListActivity* - represents a list of recent article titles
- *DetailActivity* - represents an article itself

Activities can be launched on top of each other, forming an activity back stack. Users can navigate through this back stack via UI (User Interface) components or navigate back via the system back button.

The activity has its own lifecycle, which helps the developer to understand when an activity is created or destroyed, becomes visible or hidden, recreated or rotated.

To create an activity, we need to create a Java class and extend it from the `Activity` superclass. Here is an example of `MainActivity` in the `com.travelblog` package.

```
package com.travelblog;

public class MainActivity extends Activity {

}
```

MainActivity.java

As we discussed earlier, it's better to extend from `AppCompatActivity` to achieve some backward compatibility.

```java
package com.travelblog;

import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        // activity is created
    }
}
```

MainActivity.java

To understand when activity is destroyed, we can overwrite the `onDestroy` method. This is useful when we want to release some memory or resources.

```java
package com.travelblog;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onDestroy() {
        super.onDestroy();
        // activity is destroyed
    }
}
```

MainActivity.java

There are some other activity lifecycle methods that we are not going to cover in this course, but there is a good explanation of these methods in the official Android guide.

Don't forget that all activities must be also declared in *AndroidManifest.xml* file.

```xml
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
        package="com.travelblog">
    <application
        android:theme="@style/Theme.MaterialComponents.DayNight.NoActionBar"
        android:label="Travel Blog">
        <activity android:name=".MainActivity">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />
                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
```

```
        </activity>
    </application>
</manifest>
```

In the next lesson, we will cover how to work with the Android layout.