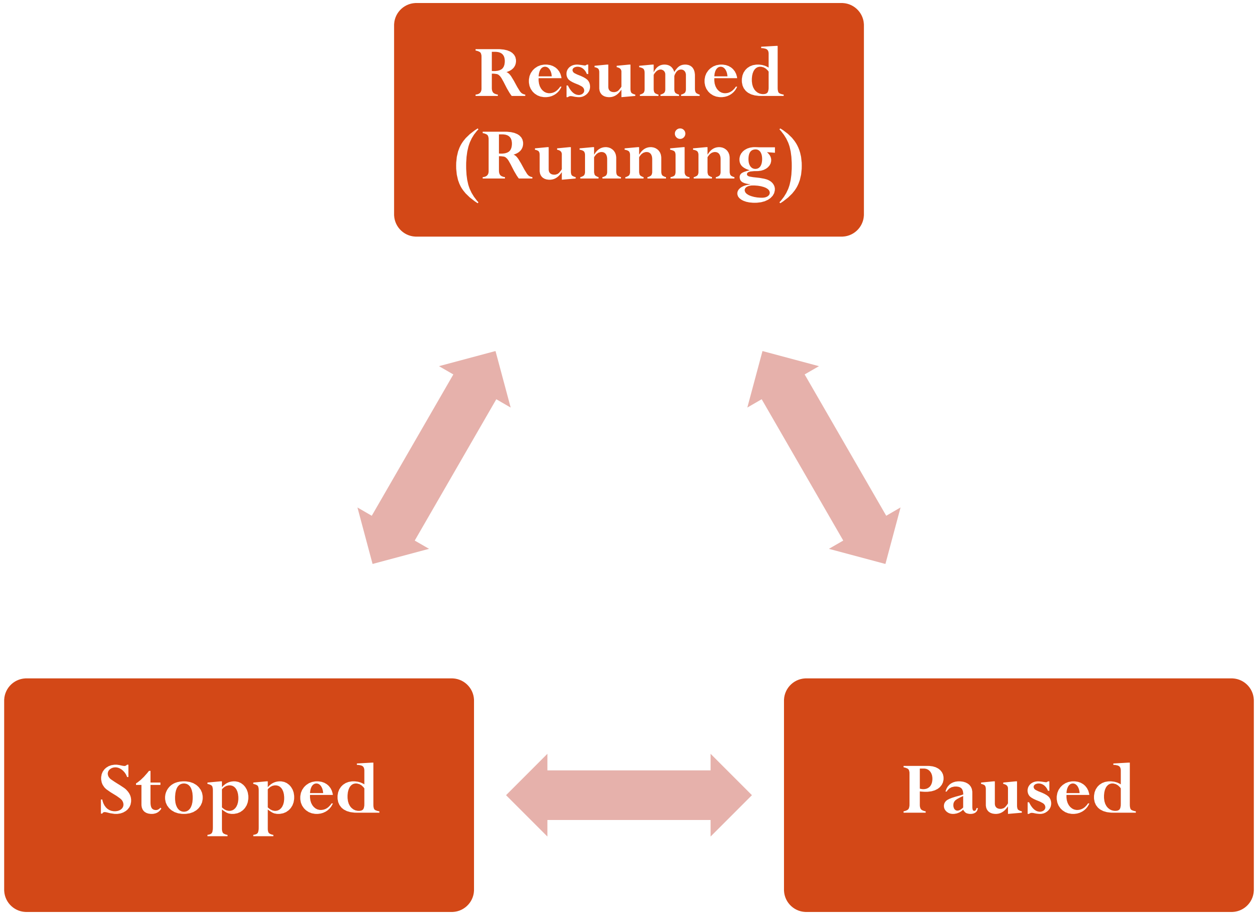
Lifecycle of Activities & Fragments in Android

Introduction to lifecycle states and callbacks

Slides By Alireza Kazemi, Content From: https://developer.android.com/training/basics/fragments/

States of an Activity



Resumed (Running)

Stopped

Paused

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States of an Activity

- Resumed (Running)
  - The activity is in the foreground of the screen and has user focus.
- Paused
  - Another activity is in the foreground and has focus, but this one is still visible.
  - A paused activity is completely alive
  - The Activity object is retained in memory
  - It maintains all state and member information
  - Remains attached to the window manager
  - Can be killed by the system in extremely low memory situations.
- Stopped
  - The activity is completely obscured by another activity (the activity is now in the "background")
  - Is also still alive (the Activity object is retained in memory, it maintains all state and member information
  - Is *not* attached to the window manager
  - It can be killed by the system when memory is needed elsewhere

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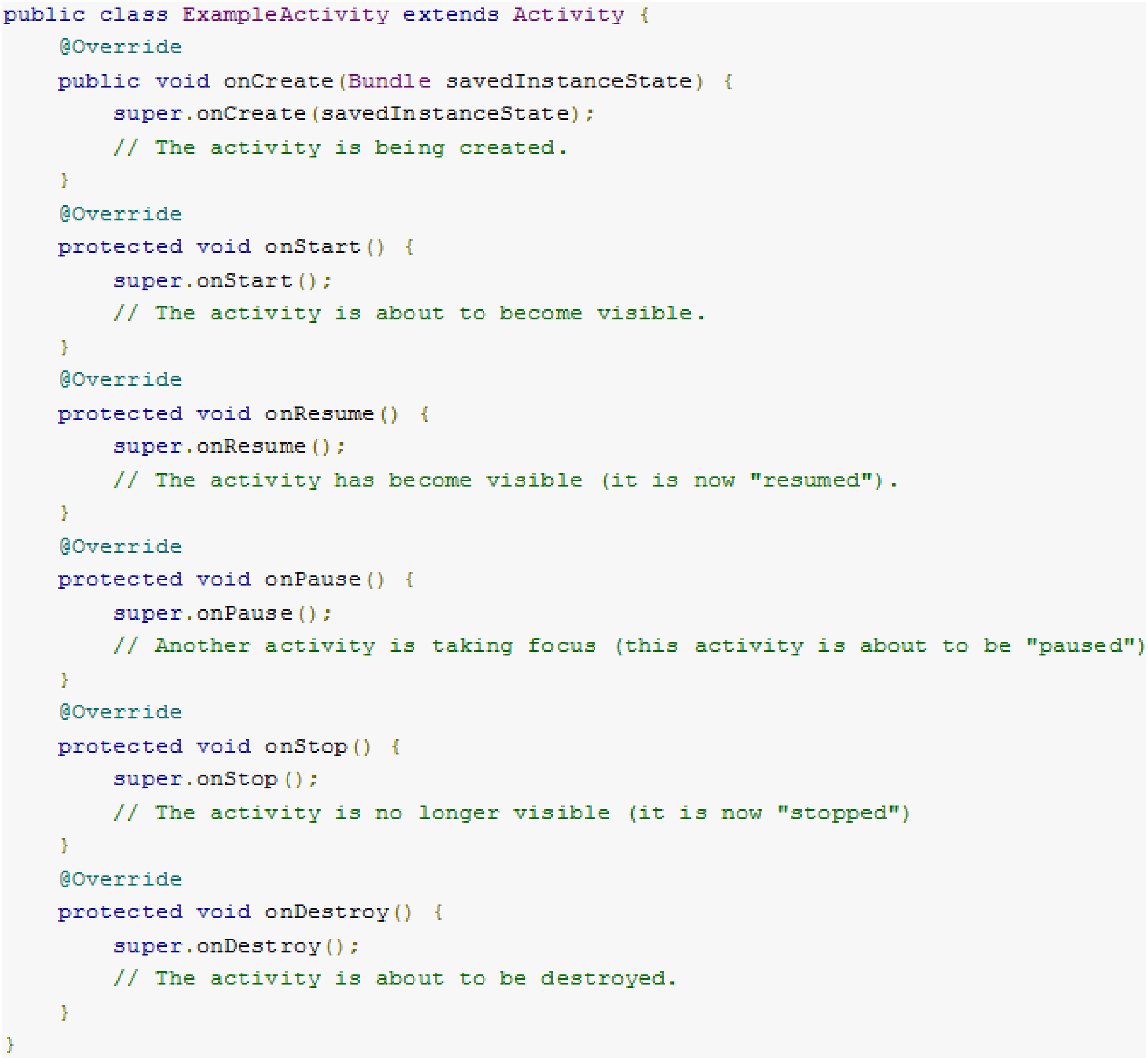
Activity Lifecycle Callbacks



```
public class ExampleActivity extends Activity {
    @Override
    public void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        // The activity is being created.
    }
    @Override
    protected void onStart() {
        super.onStart();
        // The activity is about to become visible.
    }
    @Override
    protected void onResume() {
        super.onResume();
        // The activity has become visible (it is now "resumed").
    }
    @Override
    protected void onPause() {
        super.onPause();
        // Another activity is taking focus (this activity is about to be "paused")
    }
    @Override
    protected void onStop() {
        super.onStop();
        // The activity is no longer visible (it is now "stopped")
    }
    @Override
    protected void onDestroy() {
        super.onDestroy();
        // The activity is about to be destroyed.
    }
}
```

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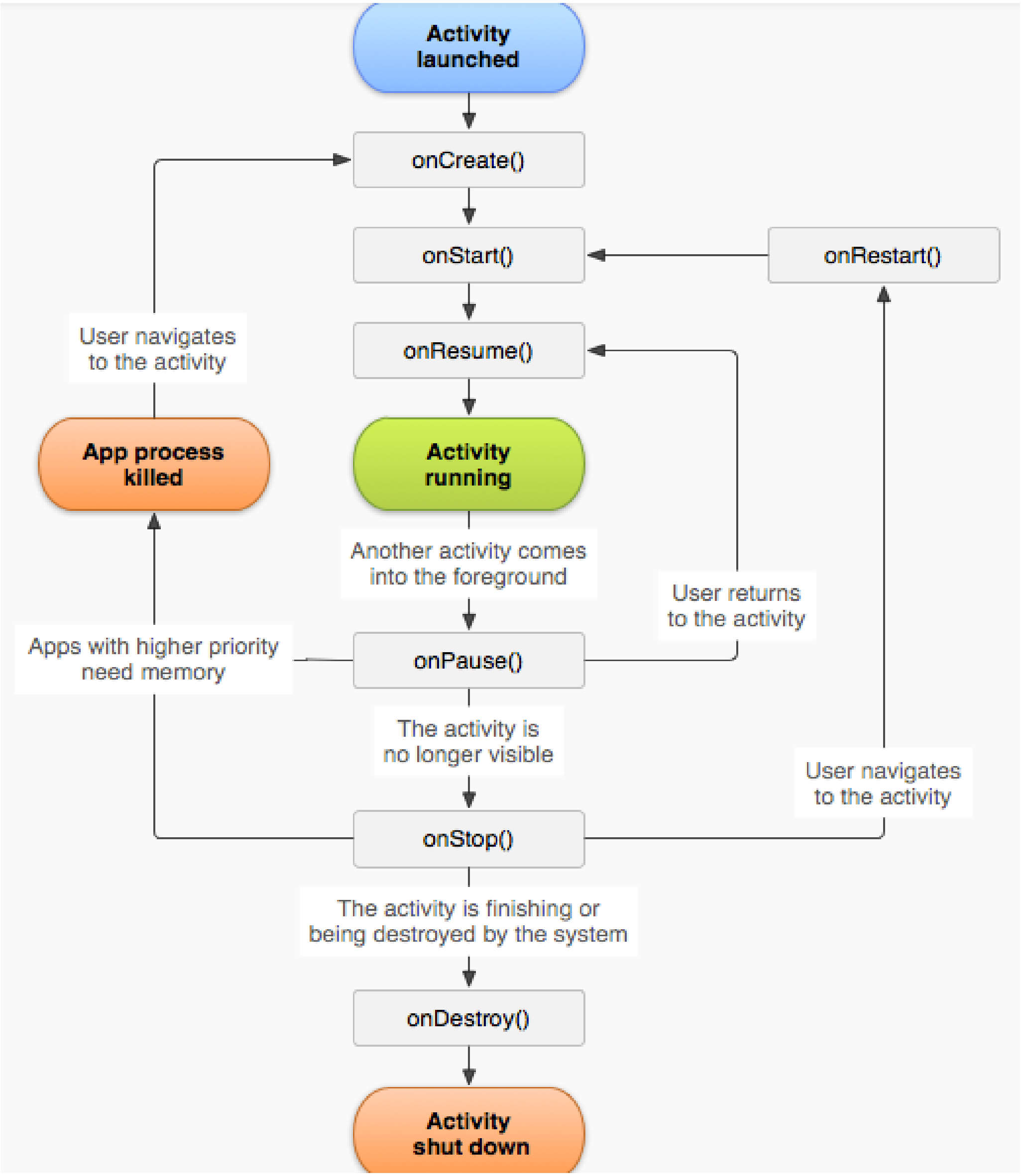
Activity Lifecycle Callbacks


Activity launched
onCreate()
onStart()
onRestart()
User navigates to the activity
onResume()
App process killed
Activity running
Another activity comes into the foreground
User returns to the activity
Apps with higher priority need memory
onPause()
The activity is no longer visible
User navigates to the activity
onStop()
The activity is finishing or being destroyed by the system
onDestroy()
Activity shut down

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