

**Definition of Program: Develop an application with Broadcast Receiver.**

**Code:**

**MainActivity.kt:**

```
package com.example.demoapp
```

```
import android.content.Intent
import android.content.IntentFilter
import android.net.ConnectivityManager
import android.os.Bundle
import androidx.appcompat.app.AppCompatActivity
```

```
class MainActivity : AppCompatActivity() {

    private lateinit var airplaneModeReceiver: AirplaneModeChangeReceiver
    private lateinit var batteryLevelReceiver: BatteryLevelReceiver
    private lateinit var connectivityChangeReceiver: ConnectivityChangeReceiver

    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)

        airplaneModeReceiver = AirplaneModeChangeReceiver()
        batteryLevelReceiver = BatteryLevelReceiver()
        connectivityChangeReceiver = ConnectivityChangeReceiver()

        IntentFilter(Intent.ACTION_AIRPLANE_MODE_CHANGED).also {
            registerReceiver(airplaneModeReceiver, it)
        }

        val batteryIntentFilter = IntentFilter().apply {
            addAction(Intent.ACTION_BATTERY_LOW)
            addAction(Intent.ACTION_BATTERY_OKAY)
        }
        registerReceiver(batteryLevelReceiver, batteryIntentFilter)

        IntentFilter(ConnectivityManager.CONNECTIVITY_ACTION).also {
            registerReceiver(connectivityChangeReceiver, it)
        }
    }

    override fun onStop() {
        super.onStop()
        unregisterReceiver(airplaneModeReceiver)
    }
}
```

```
        unregisterReceiver(batteryLevelReceiver)
        unregisterReceiver(connectivityChangeReceiver)
    }
}
```

### **AirplaneModeChangeReceiver.kt:**

```
package com.example.demoapp
```

```
import android.content.BroadcastReceiver
import android.content.Context
import android.content.Intent
import android.widget.Toast
```

```
class AirplaneModeChangeReceiver : BroadcastReceiver() {
    override fun onReceive(context: Context?, intent: Intent?) {
        val isAirplaneModeEnabled = intent?.getBooleanExtra("state", false) ?: return

        if (isAirplaneModeEnabled) {
            Toast.makeText(context, "Airplane Mode Enabled", Toast.LENGTH_LONG).show()
        } else {
            Toast.makeText(context, "Airplane Mode Disabled", Toast.LENGTH_LONG).show()
        }
    }
}
```

### **ConnectivityChangeReceiver.kt**

```
package com.example.demoapp
```

```
import android.content.BroadcastReceiver
import android.content.Context
import android.content.Intent
import android.net.ConnectivityManager
import android.widget.Toast
```

```
class ConnectivityChangeReceiver : BroadcastReceiver() {
    override fun onReceive(context: Context?, intent: Intent?) {
        if (intent?.action == ConnectivityManager.CONNECTIVITY_ACTION) {
            val cm = context?.getSystemService(Context.CONNECTIVITY_SERVICE) as
ConnectivityManager
            val networkInfo = cm.activeNetworkInfo
            if (networkInfo != null && networkInfo.isConnected) {
                Toast.makeText(context, "Network Connected", Toast.LENGTH_LONG).show()
            } else {
                Toast.makeText(context, "Network Disconnected", Toast.LENGTH_LONG).show()
            }
        }
    }
}
```

```
    }
  }
}
```

### **BatteryLevelReceiver.kt**

```
package com.example.demoapp
```

```
import android.content.BroadcastReceiver
import android.content.Context
import android.content.Intent
import android.widget.Toast
```

```
class BatteryLevelReceiver : BroadcastReceiver() {
    override fun onReceive(context: Context?, intent: Intent?) {
        when (intent?.action) {
            Intent.ACTION_BATTERY_LOW -> {
                Toast.makeText(context, "Battery is Low", Toast.LENGTH_LONG).show()
            }
            Intent.ACTION_BATTERY_OKAY -> {
                Toast.makeText(context, "Battery is Okay", Toast.LENGTH_LONG).show()
            }
        }
    }
}
```

### **activity\_main.xml:**

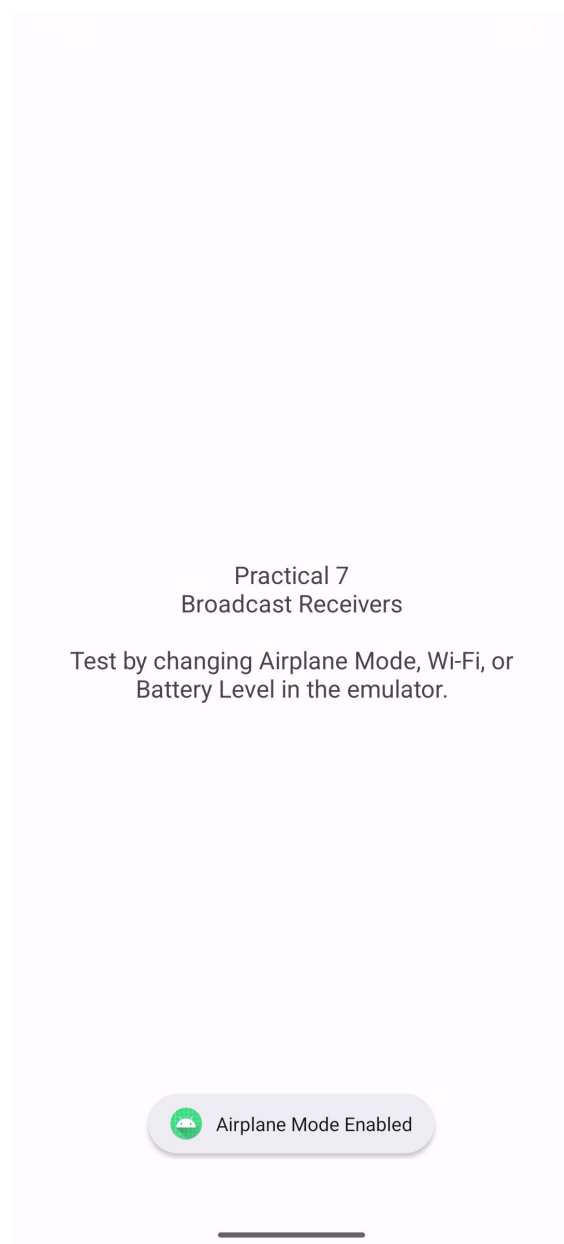
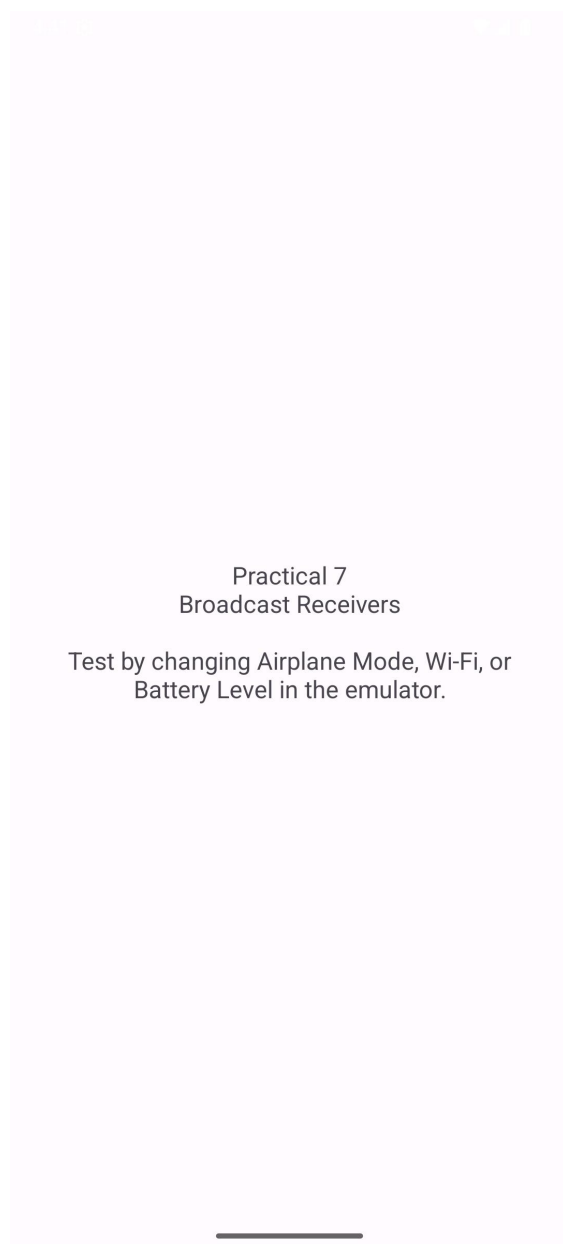
```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Practical 7\nBroadcast Receivers\n\nTest by changing Airplane
Mode, Wi-Fi, or Battery Level in the emulator."
        android:textSize="18sp"
        android:textAlignment="center"
        android:padding="16dp"
```

```
app:layout_constraintBottom_toBottomOf="parent"  
app:layout_constraintEnd_toEndOf="parent"  
app:layout_constraintStart_toStartOf="parent"  
app:layout_constraintTop_toTopOf="parent" />
```


```
</androidx.constraintlayout.widget.ConstraintLayout>
```

**Output:**




Practical 7  
Broadcast Receivers

Test by changing Airplane Mode, Wi-Fi, or  
Battery Level in the emulator.

 Airplane Mode Disabled


Practical 7  
Broadcast Receivers

Test by changing Airplane Mode, Wi-Fi, or  
Battery Level in the emulator.

 Network Disconnected


Practical 7  
Broadcast Receivers

Test by changing Airplane Mode, Wi-Fi, or  
Battery Level in the emulator.

 Network Connected

Practical 7  
Broadcast Receivers

Test by changing Airplane Mode, Wi-Fi, or  
Battery Level in the emulator.

 Battery is Okay