Ex. No. 6	Implementing and Utilizing Broadcast Receivers in Android Applications for System Events
Date of Exercise	18 - 09 - 2024

Aim

The aim of this experiment is to make an android application that detects the airplane mode using the broadcast receivers.

Program

MainActivity.kt

```
package com.example.exp_6
import android.os.Bundle
import androidx.appcompat.app.AppCompatActivity
import android.content.Intent
import android.content.IntentFilter
import android.widget.ImageView
import android.widget.TextView


class MainActivity : AppCompatActivity() {
    lateinit var receiver: AirplaneModeChangeReceiver
    lateinit var tv: TextView
    lateinit var imageView: ImageView
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)
        tv = findViewById(R.id.textView)
        imageView = findViewById(R.id.imageView)
        receiver = AirplaneModeChangeReceiver(tv, imageView)
```

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

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

activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:gravity="center"
    android:padding="16dp">

    <ImageView
        android:id="@+id/imageView"
        android:layout_width="200dp"
        android:layout_height="200dp"
        android:src="@drawable/airplane_off" />

    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
```

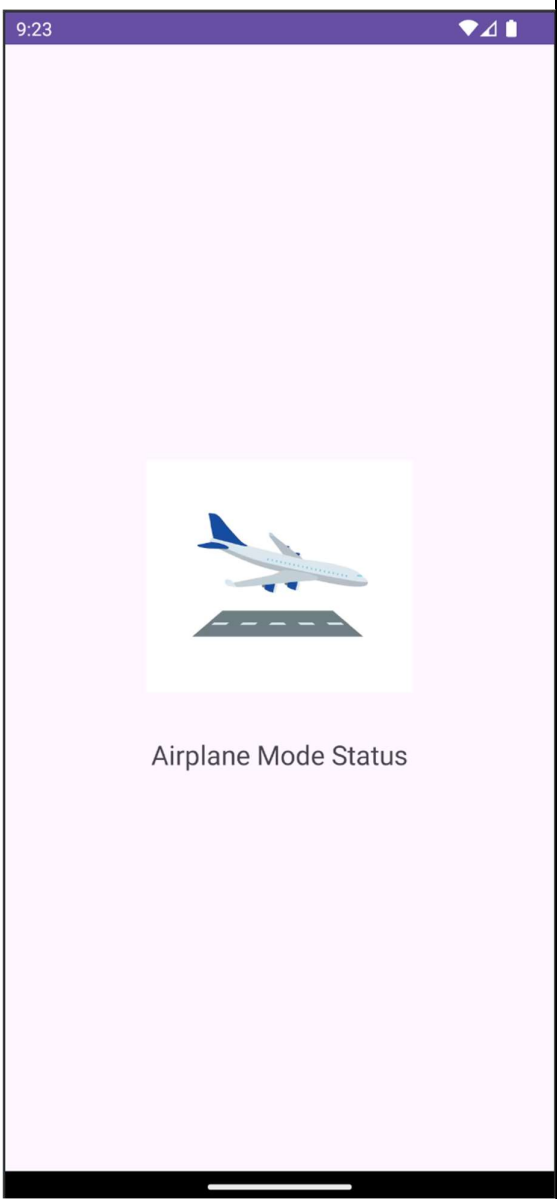
```
        android:layout_height="wrap_content"
        android:text="Airplane Mode Status"
        android:textSize="20sp"
        android:layout_marginTop="20dp"/>
</LinearLayout>
```

AirplaneModeChangeReceiver.kt

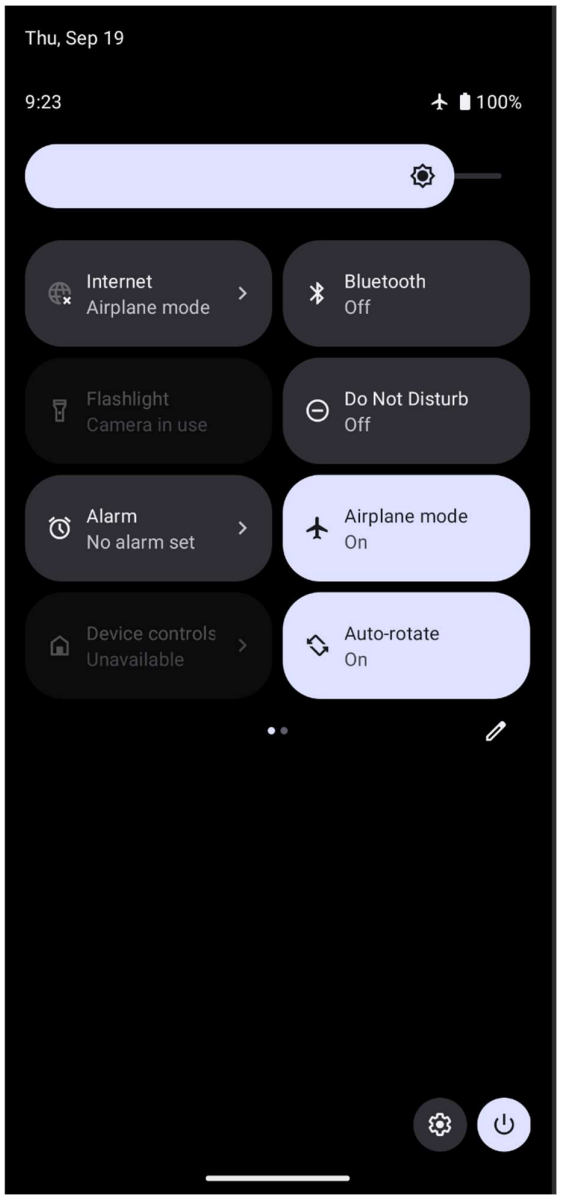
```
package com.example.exp_6
import android.content.BroadcastReceiver
import android.content.Context
import android.content.Intent
import android.widget.ImageView
import android.widget.TextView
import android.widget.Toast

class AirplaneModeChangeReceiver( private val tv: TextView, private val imageView:
ImageView) : BroadcastReceiver() {

    override fun onReceive(context: Context?, intent: Intent?) {
        val isAirplaneModeOn = intent?.getBooleanExtra("state", false) ?: return

        if (isAirplaneModeOn) {
            tv.text = "Airplane Mode is ON"
            imageView.setImageResource(R.drawable.airplane_on)
            Toast.makeText(context, "Airplane Mode Enabled", Toast.LENGTH_LONG).show()
        } else {
            tv.text = "Airplane Mode is OFF"
            imageView.setImageResource(R.drawable.airplane_off)
            Toast.makeText(context, "Airplane Mode Disabled", Toast.LENGTH_LONG).show()
        } } }
```

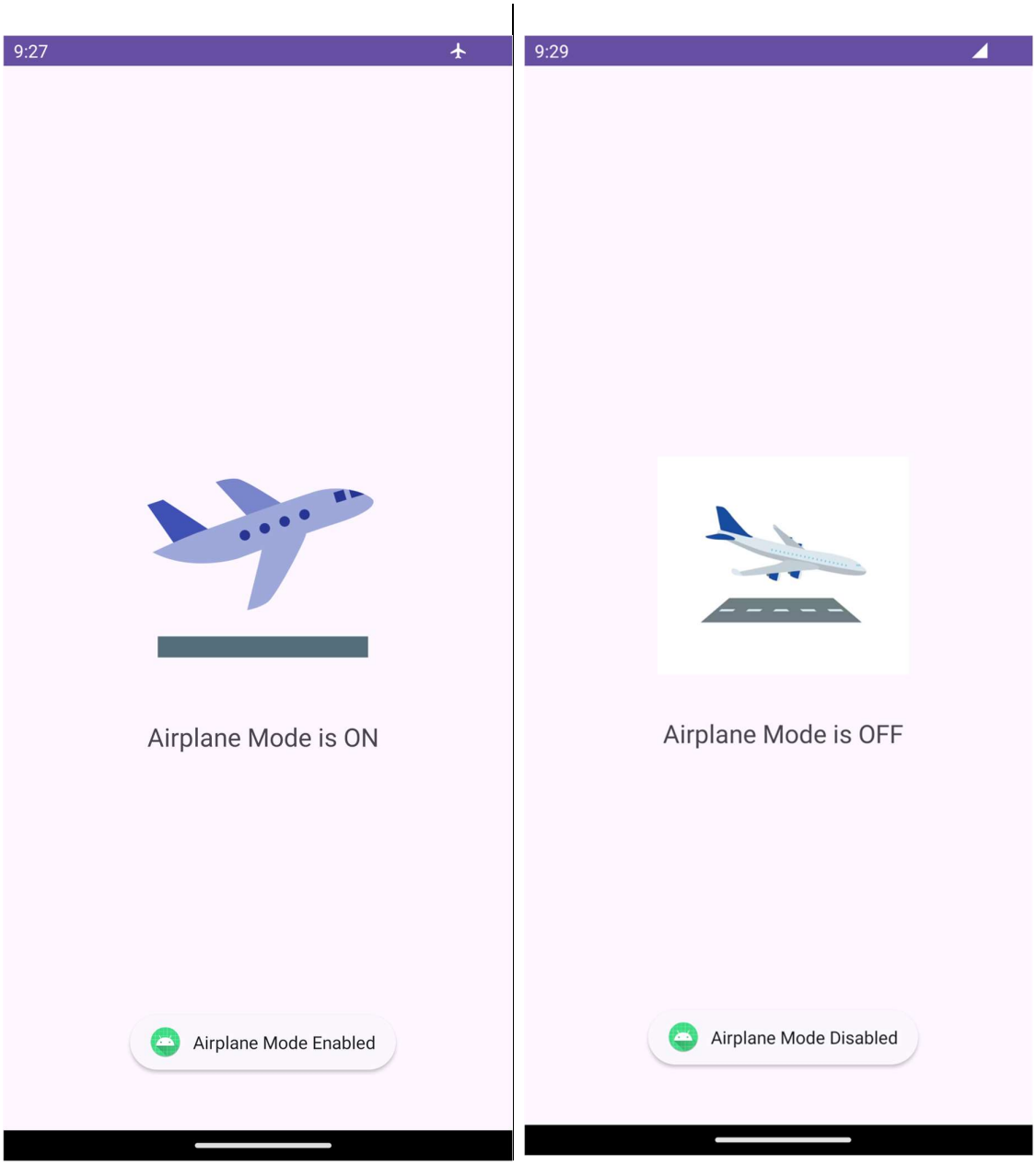
Output Screenshots

By Default:



Turning on Airplane mode:





Result

Thus, an android application was developed that detects the airplane mode using the broadcast receivers and the same was verified successfully.