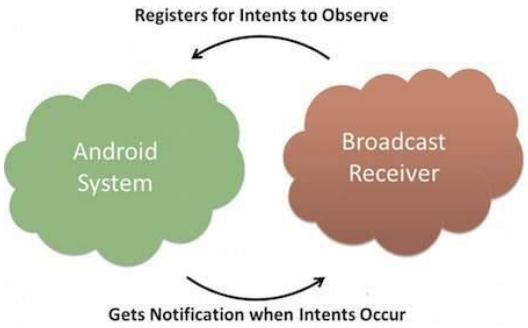
15. Develop a program to implement Broadcast receiver.

Broadcast Receivers simply respond to broadcast messages from other applications or from the system. For example, applications can also initiate broadcasts to let other applications know that some data has been downloaded to the device and is available for them to use, so this is broadcast receiver who will intercept this communication and will initiate appropriate action.

Creating the Broadcast Receiver: A broadcast receiver is implemented as a subclass of Broadcast Receiver class and overriding the onReceive() method where each message is received as an Intent object parameter.

```
public class MyReceiver extends BroadcastReceiver {
  @Override
  public void onReceive(Context context, Intent intent) {
    Toast.makeText(context, "Intent Detected.", Toast.LENGTH_LONG).show();
  }
}
```

Registering Broadcast Receiver: An application listens for specific broadcast intents by registering a broadcast receiver in AndroidManifest.xml file. Consider we are going to register MyReceiver for system generated event ACTION_BOOT_COMPLETED which is fired by the system once the Android system has completed the boot process.



Broadcast-Receiver

```
<application
  android:icon="@drawable/ic_launcher"
  android:label="@string/app_name"
  android:theme="@style/AppTheme" >
  <receiver android:name="MyReceiver">

    <intent-filter>
      <action android:name="android.intent.action.BOOT_COMPLETED">
      </action>
    </intent-filter>
```

```
  </receiver>
</application>
```

In android, **Broadcast Receiver** is a component that will allow an android system or other apps to deliver events to the app like sending a low battery message or screen turned off message to the app. The apps can also initiate broadcasts to let other apps know that required data is available in a device to use it.

Generally, use Intents to deliver broadcast events to other apps and Broadcast Receivers use status bar notifications to let the user know that broadcast event occurs.

In android, Broadcast Receiver is implemented as a subclass of **BroadcastReceiver** and each broadcast is delivered as an Intent object.

Register an app to receive only a few broadcast messages based on our requirements. When a new broadcast received, the system will check for specified broadcasts have subscribed or not based on that it will route the broadcasts to the apps.

Broadcasting Custom Intents
In android, create custom broadcasts using intents. Following is the simple code snippet of sending a broadcast by creating an intent using sendBroadcast(Intent) method.

```
Intent sintent = new Intent();
intent.setAction("com.example. mybroadcastapp");
intent.putExtra("data","Welcome to Broadcast Receivers ");
sendBroadcast(intent);
```

If you observe above code snippet a custom Intent “sintent” is created. Register intent action in android manifest file like as shown below –

```
<receiver android:name=".SampleBroadcastReceiver">
   <intent-filter>
      <action android:name=" com.example.mybroadcastapp"/>
   </intent-filter>
</receiver>
```

This is how to create custom broadcasts using Intents in android applications.

Questions

1. Differentiate between Activity Intent and Broadcasting Intent.
2. List the System Events related to Broadcast Receivers.

1. Write a program to demonstrate system broadcast messages.
   https://www.youtube.com/watch?v=8FJ3oOpHszc
2. Write a program to show the following output Example on Tutorialspoint