**[2CEIT5PE5: MOBILE APPLICATION DEVELOPMENT]**

Practical: 4



AIM: What is Intent? Write down types of Intent and types of Intent Action. Create an application which demonstrates **implicit Intent** for following features and also create different activities and demonstrate **explicit Intent**. Use parent theme Theme.Material3.Dark.NoActionBar for Dark theme and Theme.Material3.Light.NoActionBar for Light Theme

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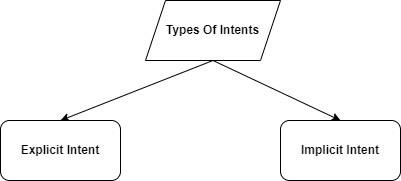


# What is Intent?

**Department of Computer Engineering/Information Technology**

* [Intent](https://abhiandroid.com/programming/intent-in-android/) are the objects which is used in android for passing the information among Activities in an Application and from one app to another also.
* [Intent](https://abhiandroid.com/programming/intent-in-android/) are used for communicating between the Application components and it also provides the connectivity between two apps.

# Types of Intent?



1. **Explicit Intent:**

Explicit Intents are used to connect the application internally.



**Intent intent = new Intent(getApplicationContext(), SecondActivity.class);**

**startActivity(intent);**

# Implicit Intent:

* + It mainly use for passing data from one app to another or open another application.
  + Ex: Open link, Open camera, Set alarm, Choose images from gallery, get contacts from contact app, dial number, open file with another app, select file from file system and many more.



**Intent intentObj = new Intent(Intent.ACTION\_VIEW);**

**intentObj.setData(Uri.parse(**[**"https://www.google.com"**](http://www.google.com/)**)); startActivity(intentObj);**

# Types of Intent Action

* + **ACTION\_CALL:** This is for initiating calls from the user’s device.
  + **ACTION\_EDIT:** This is to edit and make changes in the data that is visible to the users.
  + **ACTION\_MAIN:** This is an initial activity of a task. It takes no input and returns no output.

 **ACTION\_DIAL:** This is used to display a Dialer to the users.

* + **ACTION\_SYNC:** This is to synchronize the user’s data on their device on a server.
  + **ACTION\_HEADSET\_PLUG:** This displays that a headset is plugged in or taken out.
  + **ACTION\_SCREENON:** This is for turning on the screen of the user’s device.
  + **ACTION\_BATTERY\_LOW:** This is a warning for a low running battery.
  + **ACTION\_VIEW:** This displays the data to the users on the screens of their devices.

# activity\_main.xml:

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| ***<?*xml version="1.0" encoding="utf-8"*?>*** |
| **<androidx.coordinatorlayout.widget.CoordinatorLayout xmlns:android[="http://schemas.android.com/apk/res/android"](http://schemas.android.com/apk/res/android) xmlns:app[="http://schemas.android.com/apk/res](http://schemas.android.com/apk/res-auto)-**[**auto"**](http://schemas.android.com/apk/res-auto) **xmlns:tools[="http://schemas.android.com/tools"](http://schemas.android.com/tools) android:layout\_width="match\_parent" android:layout\_height="match\_parent" tools:context=".MainActivity">**  **<androidx.core.widget.NestedScrollView android:id="@+id/txt\_camera" android:layout\_width="match\_parent"** |
| **android:layout\_height="match\_parent"** |
| **app:layout\_behavior="@string/appbar\_scrolling\_view\_behavior">**  **<androidx.constraintlayout.widget.ConstraintLayout android:layout\_width="match\_parent"**  **android:layout\_height="match\_parent">**  **<com.google.android.material.textfield.TextInputLayout android:layout\_width="0dp" android:layout\_height="wrap\_content" android:layout\_marginStart="20dp"**  **android:layout\_marginEnd="5dp" android:hint="Web URL"**  **app:layout\_constraintBottom\_toBottomOf="@id/btn\_browse" app:layout\_constraintEnd\_toStartOf="@id/btn\_browse" app:layout\_constraintStart\_toStartOf="parent" app:layout\_constraintTop\_toTopOf="@id/btn\_browse" app:startIconDrawable="@drawable/ic\_baseline\_link\_24">**  **<com.google.android.material.textfield.TextInputEditText android:id="@+id/txt\_browse" android:layout\_width="match\_parent" android:layout\_height="wrap\_content" />**  **</com.google.android.material.textfield.TextInputLayout>**  **<Button**  **android:id="@+id/btn\_browse"** |

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| **android:layout\_width="0dp" android:layout\_height="wrap\_content"** |
| **android:layout\_marginTop="20dp" android:layout\_marginEnd="20dp"**  **android:backgroundTint="@color/btn\_back\_color" android:gravity="center"**  **android:text="Browse" app:cornerRadius="25dp" app:layout\_constraintEnd\_toEndOf="parent"**  **app:layout\_constraintTop\_toTopOf="parent" />**  **<com.google.android.material.textfield.TextInputLayout android:layout\_width="0dp"** |

|  |
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| **android:layout\_height="wrap\_content"** |
| **android:layout\_marginStart="20dp" android:layout\_marginEnd="5dp" android:hint="Call Number"**  **app:layout\_constraintBottom\_toBottomOf="@id/btn\_call" app:layout\_constraintEnd\_toStartOf="@id/btn\_call" app:layout\_constraintStart\_toStartOf="parent" app:layout\_constraintTop\_toTopOf="@id/btn\_call"**  **app:startIconDrawable="@drawable/ic\_baseline\_phone\_24">**  **<com.google.android.material.textfield.TextInputEditText android:id="@+id/txt\_call"**  **android:layout\_width="match\_parent" android:layout\_height="wrap\_content"**  **android:inputType="phone" />** |

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| **</com.google.android.material.textfield.TextInputLayout>**  **<Button**  **android:id="@+id/btn\_call" android:layout\_width="0dp" android:layout\_height="wrap\_content" android:layout\_marginTop="30dp"**  **android:backgroundTint="@color/btn\_back\_color" android:text="Call" app:cornerRadius="25dp"**  **app:layout\_constraintEnd\_toEndOf="@+id/btn\_browse" app:layout\_constraintTop\_toBottomOf="@+id/btn\_browse" />**  **<com.google.android.material.textfield.TextInputLayout android:layout\_width="0dp"**  **android:layout\_height="wrap\_content" android:layout\_marginStart="20dp" android:layout\_marginEnd="5dp" android:hint="Contact List"**  **app:layout\_constraintBottom\_toBottomOf="@id/btn\_contact" app:layout\_constraintEnd\_toStartOf="@id/btn\_contact" app:layout\_constraintStart\_toStartOf="parent" app:layout\_constraintTop\_toTopOf="@id/btn\_contact" app:startIconDrawable="@drawable/ic\_baseline\_folder\_24">**  **<com.google.android.material.textfield.TextInputEditText android:id="@+id/txt\_contact"**  **android:layout\_width="match\_parent"** |
| **android:layout\_height="wrap\_content" />** |
| **</com.google.android.material.textfield.TextInputLayout>**  **<Button**  **android:id="@+id/btn\_contact" android:layout\_width="0dp" android:layout\_height="wrap\_content" android:layout\_marginTop="30dp"**  **android:backgroundTint="@color/btn\_back\_color" android:text="Contact"**  **app:cornerRadius="25dp"**  **app:layout\_constraintEnd\_toEndOf="@+id/btn\_call"** |

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| **app:layout\_constraintTop\_toBottomOf="@+id/btn\_call" />**  **<com.google.android.material.textfield.TextInputLayout android:layout\_width="0dp" android:layout\_height="wrap\_content" android:layout\_marginStart="20dp"**  **android:layout\_marginEnd="5dp" android:hint="Call Log"**  **app:layout\_constraintBottom\_toBottomOf="@id/btn\_call\_log" app:layout\_constraintEnd\_toStartOf="@id/btn\_call\_log" app:layout\_constraintStart\_toStartOf="parent" app:layout\_constraintTop\_toTopOf="@id/btn\_call\_log"**  **app:startIconDrawable="@drawable/ic\_baseline\_phone\_forwarded\_24">** |
| **<com.google.android.material.textfield.TextInputEditText** |
| **android:id="@+id/txt\_call\_log" android:layout\_width="match\_parent" android:layout\_height="wrap\_content" />**  **</com.google.android.material.textfield.TextInputLayout>**  **<Button**  **android:id="@+id/btn\_call\_log" android:layout\_width="0dp" android:layout\_height="wrap\_content" android:layout\_marginTop="30dp"**  **android:backgroundTint="@color/btn\_back\_color" android:text="Call Log" app:cornerRadius="25dp"**  **app:layout\_constraintEnd\_toEndOf="@+id/btn\_contact" app:layout\_constraintTop\_toBottomOf="@+id/btn\_contact" />**  **<com.google.android.material.textfield.TextInputLayout android:layout\_width="0dp"**  **android:layout\_height="wrap\_content" android:layout\_marginStart="20dp"**  **android:layout\_marginEnd="5dp" android:hint="Gallery" app:layout\_constraintBottom\_toBottomOf="@id/btn\_gallery"**  **app:layout\_constraintEnd\_toStartOf="@id/btn\_gallery" app:layout\_constraintStart\_toStartOf="parent" app:layout\_constraintTop\_toTopOf="@id/btn\_gallery"**  **app:startIconDrawable="@drawable/ic\_baseline\_photo\_24">** |

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| **<com.google.android.material.textfield.TextInputEditText android:id="@+id/txt\_gallery" android:layout\_width="match\_parent" android:layout\_height="wrap\_content" />**  **</com.google.android.material.textfield.TextInputLayout>**  **<Button**  **android:id="@+id/btn\_gallery" android:layout\_width="0dp" android:layout\_height="wrap\_content"** |

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| **android:layout\_marginTop="30dp"** |
| **android:backgroundTint="@color/btn\_back\_color" android:text="Gallery"**  **app:cornerRadius="25dp"**  **app:layout\_constraintEnd\_toEndOf="@+id/btn\_call\_log" app:layout\_constraintTop\_toBottomOf="@+id/btn\_call\_log" />**  **<com.google.android.material.textfield.TextInputLayout android:layout\_width="0dp"**  **android:layout\_height="wrap\_content" android:layout\_marginStart="20dp" android:layout\_marginEnd="5dp" android:hint="Camera"**  **app:layout\_constraintBottom\_toBottomOf="@id/btn\_camera" app:layout\_constraintEnd\_toStartOf="@id/btn\_camera"** |
| **app:layout\_constraintStart\_toStartOf="parent"** |
| **app:layout\_constraintTop\_toTopOf="@id/btn\_camera" app:startIconDrawable="@drawable/ic\_baseline\_photo\_camera\_24">**  **<com.google.android.material.textfield.TextInputEditText android:layout\_width="match\_parent" android:layout\_height="wrap\_content" />**  **</com.google.android.material.textfield.TextInputLayout>**  **<Button**  **android:id="@+id/btn\_camera" android:layout\_width="0dp" android:layout\_height="wrap\_content" android:layout\_marginTop="30dp"**  **android:backgroundTint="@color/btn\_back\_color" android:text="Camera" app:cornerRadius="25dp"**  **app:layout\_constraintEnd\_toEndOf="@+id/btn\_gallery" app:layout\_constraintTop\_toBottomOf="@+id/btn\_gallery" />**  **<com.google.android.material.textfield.TextInputLayout android:layout\_width="0dp"**  **android:layout\_height="wrap\_content" android:layout\_marginStart="20dp" android:layout\_marginEnd="5dp" android:hint="Alarm"**  **app:layout\_constraintBottom\_toBottomOf="@id/btn\_alarm" app:layout\_constraintEnd\_toStartOf="@id/btn\_alarm"** |
| **app:layout\_constraintStart\_toStartOf="parent"** |

|  |
| --- |
| **app:layout\_constraintTop\_toTopOf="@id/btn\_alarm" app:startIconDrawable="@drawable/ic\_baseline\_alarm\_24">**  **<com.google.android.material.textfield.TextInputEditText android:layout\_width="match\_parent"**  **android:id="@+id/txt\_alarm"**  **android:layout\_height="wrap\_content" />**  **</com.google.android.material.textfield.TextInputLayout>** |
| **<Button**  **android:id="@+id/btn\_alarm" android:layout\_width="0dp" android:layout\_height="wrap\_content" android:layout\_marginTop="30dp"**  **android:backgroundTint="@color/btn\_back\_color" android:text="Alarm" app:cornerRadius="25dp"**  **app:layout\_constraintEnd\_toEndOf="@+id/btn\_camera" app:layout\_constraintTop\_toBottomOf="@+id/btn\_camera" />**  **</androidx.constraintlayout.widget.ConstraintLayout>**  **</androidx.core.widget.NestedScrollView>**  **</androidx.coordinatorlayout.widget.CoordinatorLayout>** |

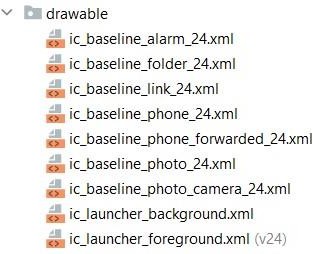
# MainActivity.kt:

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| --- |
| **package com.example.madpractical4\_21012022043** |
| **import android.content.Intent import android.net.Uri**  **import androidx.appcompat.app.AppCompatActivity import android.os.Bundle import android.provider.AlarmClock import android.provider.CallLog import android.provider.ContactsContract import android.provider.MediaStore import android.widget.Button import android.widget.EditText** |
| **import android.widget.Toast** |
| **class MainActivity : AppCompatActivity() {**  **override fun onCreate(savedInstanceState: Bundle?) { super.onCreate(savedInstanceState) setContentView(R.layout.*activity\_main*)**  **val btnBrowse:Button=findViewById(R.id.*btn\_browse*) val txtBrowse:EditText=findViewById(R.id.*txt\_browse*)**  **val btnCall:Button=findViewById(R.id.*btn\_call*) val txtCall:EditText=findViewById(R.id.*txt\_call*) val txtAlarm:EditText=findViewById(R.id.*txt\_alarm*)**  **val btnContact:Button=findViewById(R.id.*btn\_contact*) val btnCallLog:Button=findViewById(R.id.*btn\_call\_log*)**  **val btnGallery:Button=findViewById(R.id.*btn\_gallery*) val btnCamera:Button=findViewById(R.id.*btn\_camera*) val btnAlarm:Button=findViewById(R.id.*btn\_alarm*)**  **btnBrowse.setOnClickListener { if(txtBrowse.*text*.toString()!="")**  **{**  **Intent(Intent.*ACTION\_VIEW*).setData( Uri.parse("https://"+(txtBrowse.*text*.toString()))).*apply* {**  **startActivity(this)**  **}**  **}**  **else{**  **Toast.makeText(this,"Please enter URL",Toast.*LENGTH\_SHORT*).show()** |
| **}** |

|  |
| --- |
| **}**  **btnCall.setOnClickListener { if(txtCall.*text*.toString()!="")**  **{**  **Intent(Intent.*ACTION\_DIAL*).setData( Uri.parse("tel:"+txtCall.*text*.toString())).*apply* {**  **startActivity(this)**  **}**  **}**  **else{**  **Toast.makeText(this,"Please enter mobile number",Toast.*LENGTH\_SHORT*).show()** |
| **}** |
| **}**  **btnContact.setOnClickListener { Intent(Intent.*ACTION\_VIEW*).setType( ContactsContract.Contacts.*CONTENT\_TYPE*).*apply* {**  **startActivity(this)**  **}**  **}**  **btnCallLog.setOnClickListener { Intent(Intent.*ACTION\_VIEW*).setType(CallLog.Calls.*CONTENT\_TYPE*).*apply* {**  **startActivity(this)**  **}**  **}** |

|  |
| --- |
| **btnGallery.setOnClickListener { Intent(Intent.*ACTION\_PICK*).setType("image/\*").*apply* {**  **startActivity(this)**  **}**  **}**  **btnCamera.setOnClickListener { Intent(MediaStore.*ACTION\_IMAGE\_CAPTURE*).*apply* {**  **startActivity(this)**  **}**  **}**  **btnAlarm.setOnClickListener { if(txtAlarm.*text*.toString()!="")**  **{**  **Intent(AlarmClock.*ACTION\_SET\_ALARM*).*apply* { this.putExtra(AlarmClock.*EXTRA\_MESSAGE*, txtAlarm.*text*.toString())**  **this.putExtra(AlarmClock.*EXTRA\_HOUR*, 10)**  **this.putExtra(AlarmClock.*EXTRA\_MINUTES*, 30) startActivity(this)**  **}**  **}**  **else{**  **Toast.makeText(this,"Please enter Alarm Name",Toast.*LENGTH\_SHORT*).show()**  **}**  **}**  **}**  **}** |

**Resource:**



# Output:

