**Practical No: 4**

**Aim: Create an android app that demonstrates Activity Lifecycle and Instance State**

**Activity Lifecycle**

**Activity\_main.xml**

<?xml version="1.0" encoding="utf-8"?>

<LinearLayout 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">

android:orientation="vertical"

<TextView

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"sssss

android:text="Hello World!"

app:layout\_constraintBottom\_toBottomOf="parent"

app:layout\_constraintLeft\_toLeftOf="parent"

app:layout\_constraintRight\_toRightOf="parent"

app:layout\_constraintTop\_toTopOf="parent" />

</LinearLayout>

**MainActivity.java**

package com.example.activitylifecycle;

import android.support.v7.app.AppCompatActivity;

import android.os.Bundle;

import android.util.Log;

public class MainActivity extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

Log.d(String.valueOf(this), "");

Log.d(String.valueOf(this), "onCreate");

}

@Override

protected void onStart(){

super.onStart();

Log.d(String.valueOf(this), "onStart");

}

@Override

protected void onPause(){

super.onPause();

Log.d(String.valueOf(this), "onPause");

}

@Override

protected void onRestart(){

super.onRestart();

Log.d(String.valueOf(this), "onRestart");

}

@Override

protected void onResume(){

super.onResume();

Log.d(String.valueOf(this),"onResume");

}

@Override

protected void onStop(){

super.onStop();

Log.d(String.valueOf(this), "onStop");

}

@Override

protected void onDestroy(){

super.onDestroy();

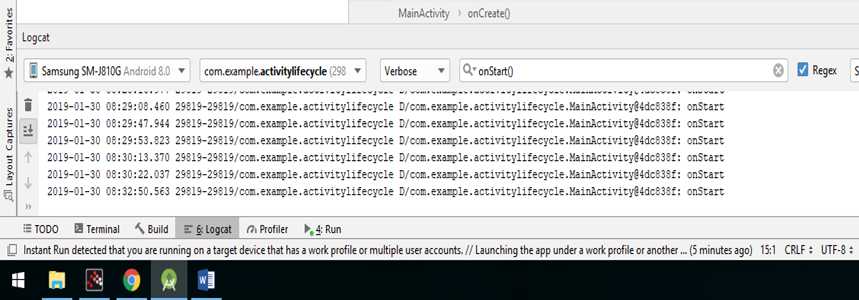
Log.d(String.valueOf(this), "onDestroy");

}

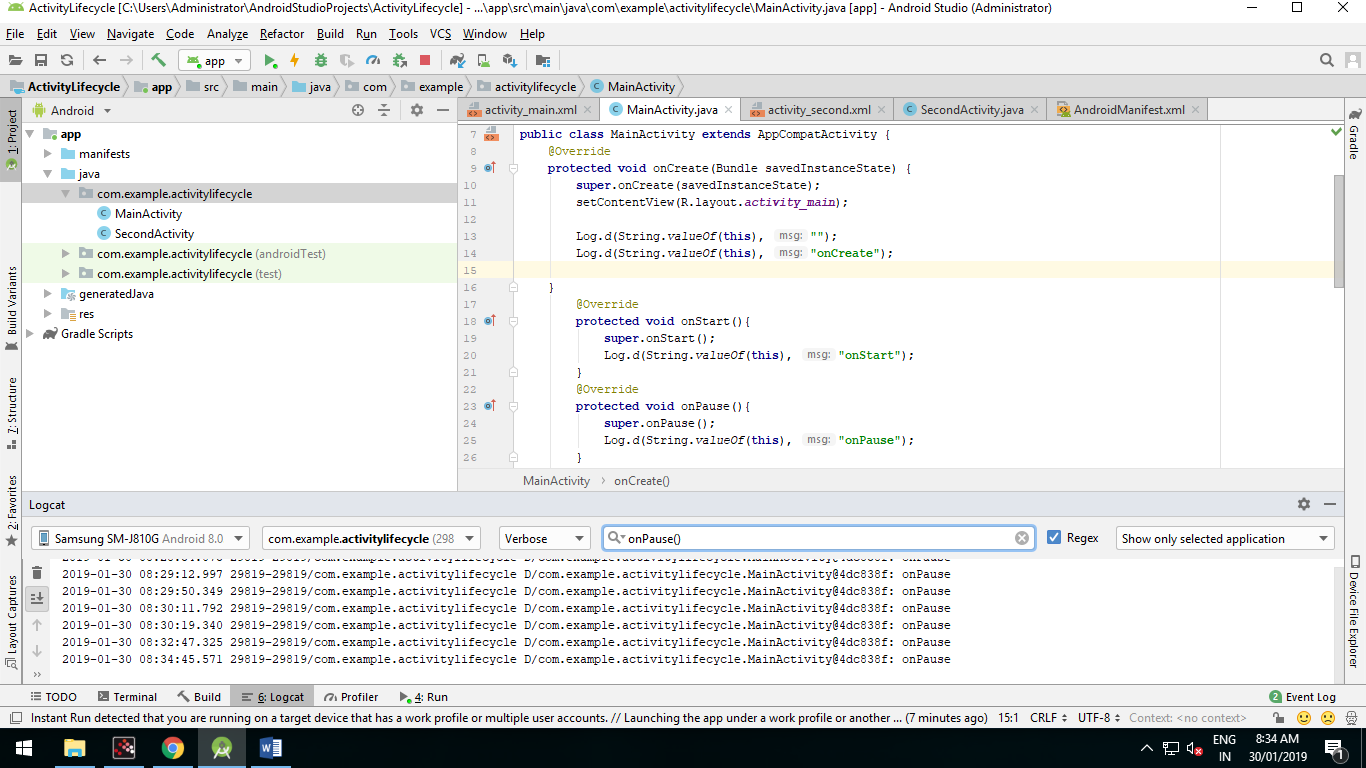
}

**Output:**

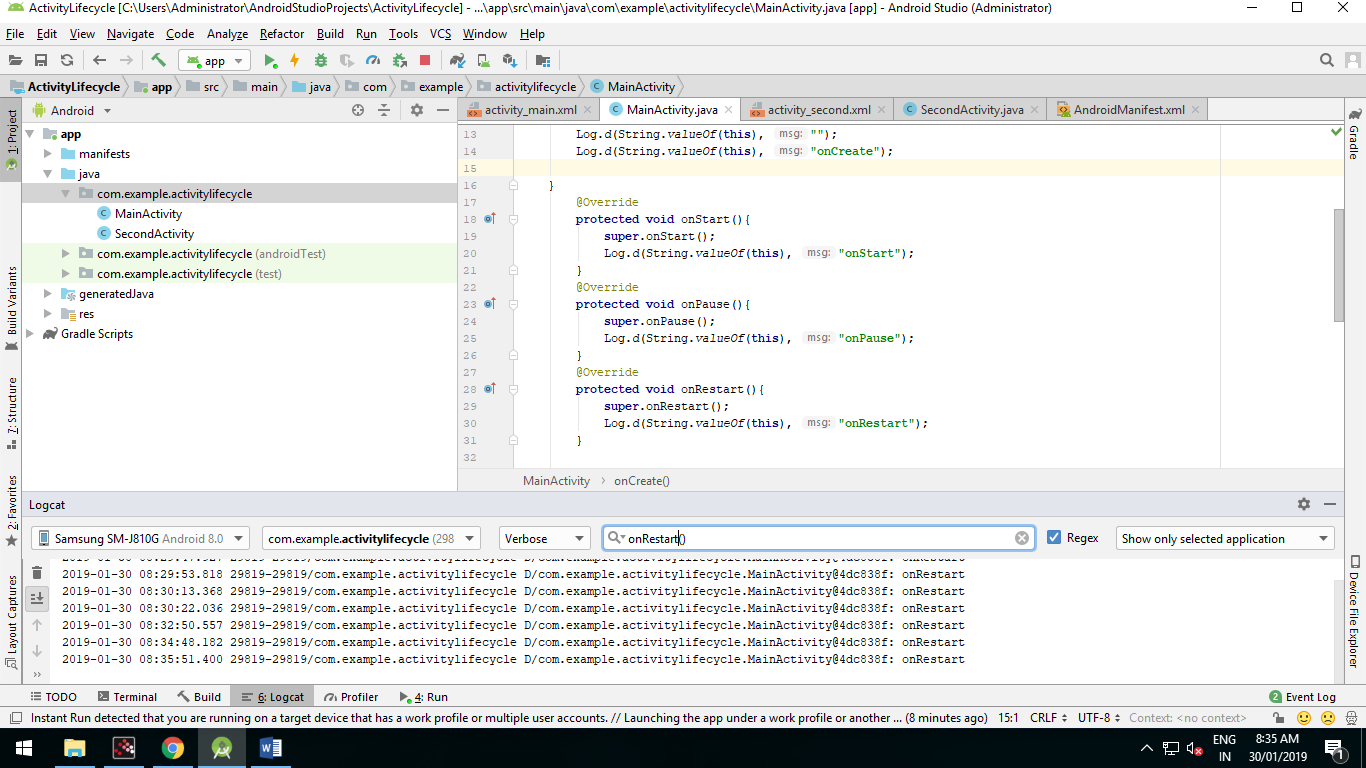
onStart()



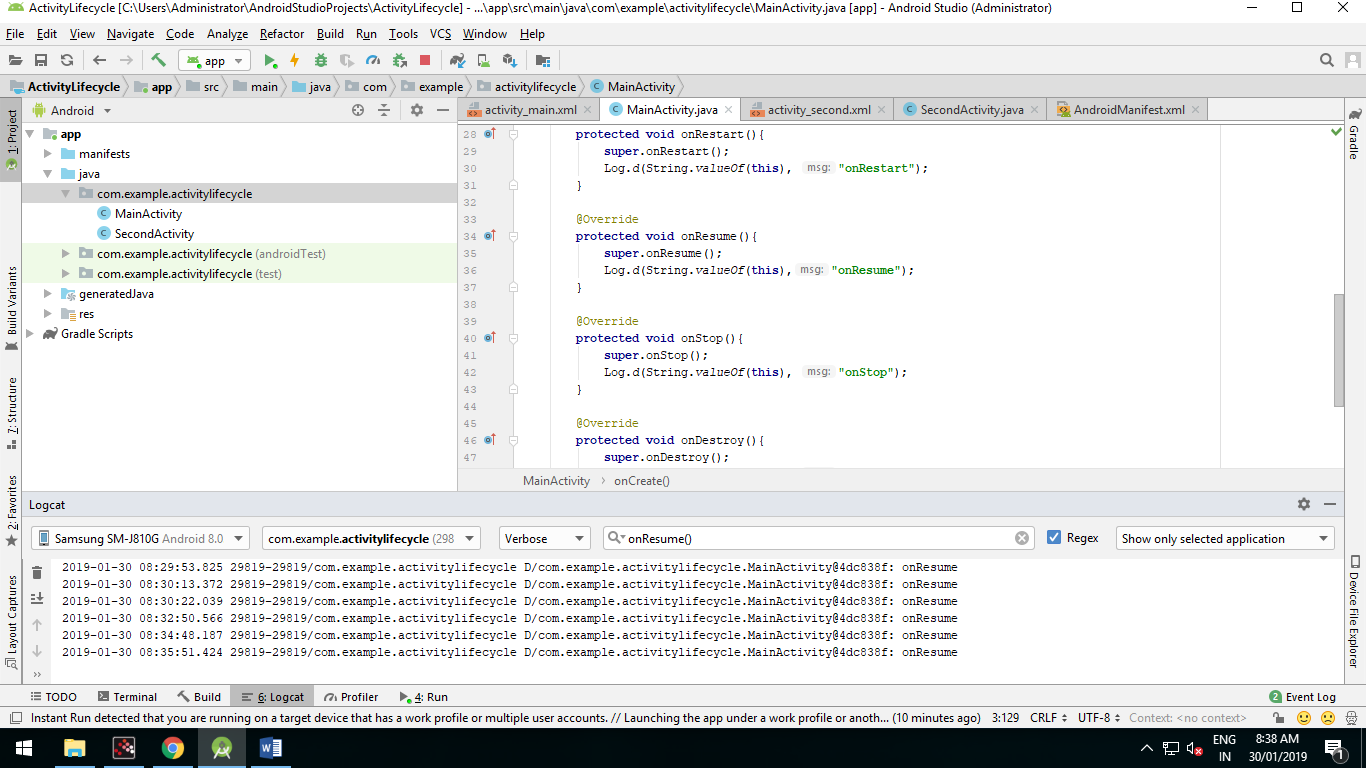
onPause()



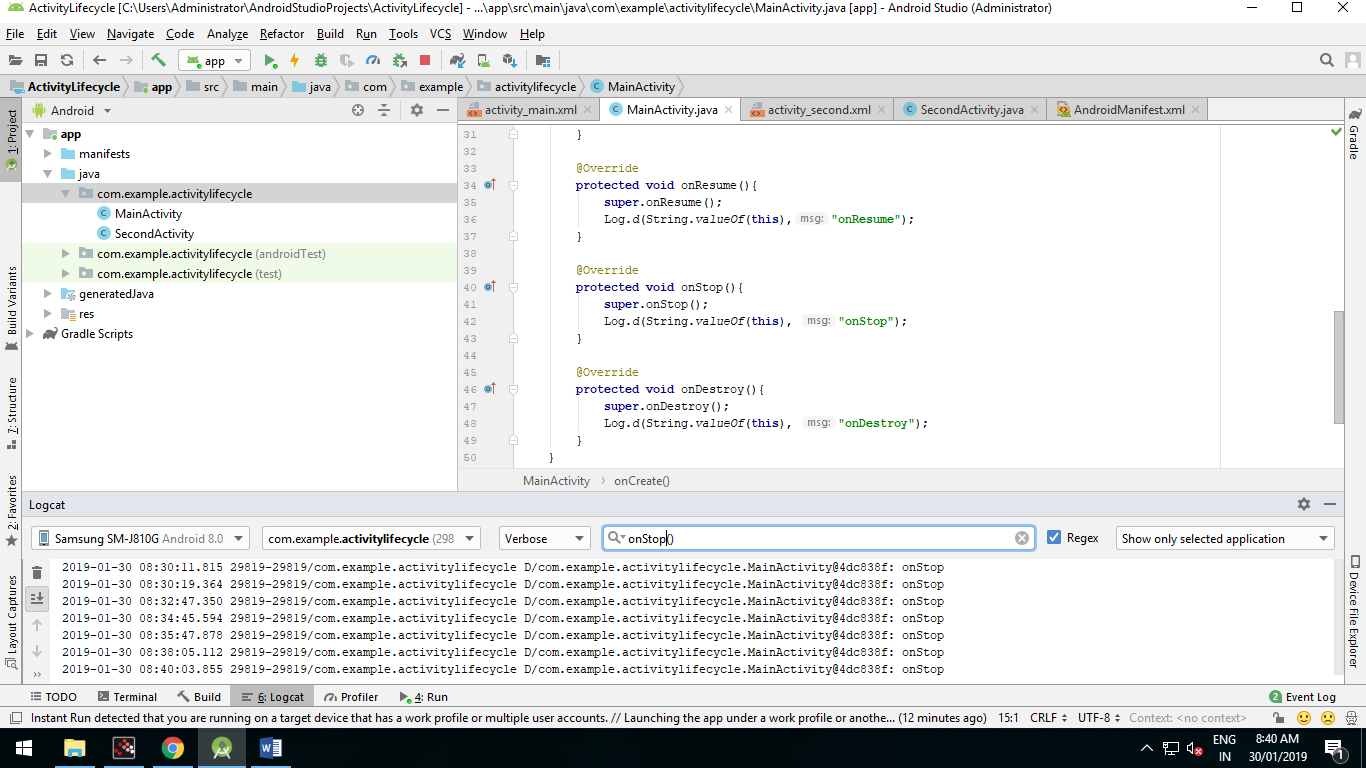
onRestart()



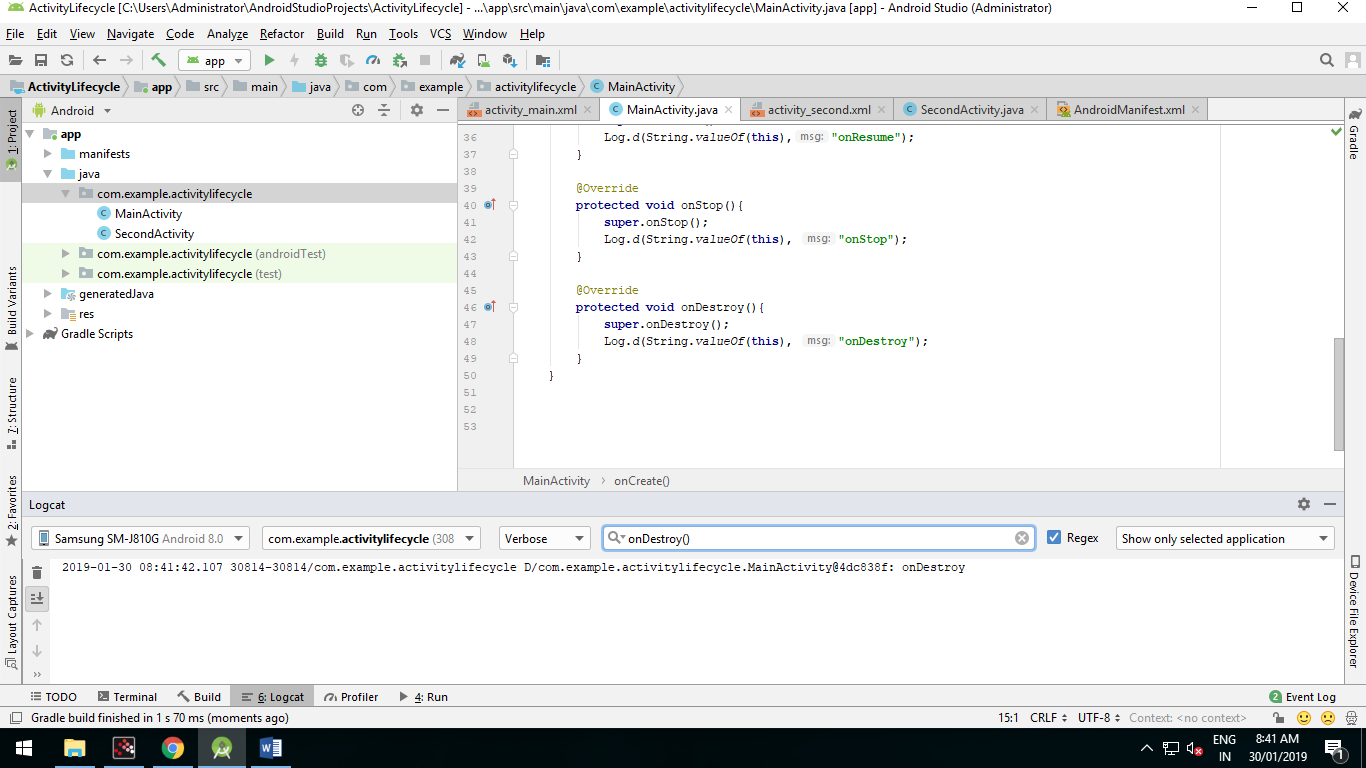
onResume()



onStop()



onDestroy()



**Practical No: 5**

**Two Activities.**

Activity\_main.xml

*<?***xml version="1.0" encoding="utf-8"***?>*

<**android.support.constraint.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="com.example.android.twoactivities.MainActivity"**>

<**TextView**

**android:id="@+id/text\_header\_reply"**

**android:layout\_width="wrap\_content"**

**android:layout\_height="wrap\_content"**

**android:layout\_marginStart="8dp"**

**android:layout\_marginLeft="8dp"**

**android:layout\_marginTop="16dp"**

**android:text="@string/text\_header\_reply"**

**android:textAppearance="@style/TextAppearance.AppCompat.Medium"**

**android:textStyle="bold"**

**android:visibility="invisible"**

**app:layout\_constraintStart\_toStartOf="parent"**

**app:layout\_constraintTop\_toTopOf="parent"** />

<**TextView**

**android:id="@+id/text\_message\_reply"**

**android:layout\_width="wrap\_content"**

**android:layout\_height="wrap\_content"**

**android:layout\_marginStart="8dp"**

**android:layout\_marginLeft="8dp"**

**android:layout\_marginTop="8dp"**

**android:visibility="invisible"**

**app:layout\_constraintStart\_toStartOf="parent"**

**app:layout\_constraintTop\_toBottomOf="@+id/text\_header\_reply"** />

<**Button**

**android:id="@+id/button\_main"**

**android:layout\_width="wrap\_content"**

**android:layout\_height="wrap\_content"**

**android:layout\_marginBottom="16dp"**

**android:layout\_marginRight="16dp"**

**android:text="@string/button\_main"**

**android:onClick="launchSecondActivity"**

**app:layout\_constraintBottom\_toBottomOf="parent"**

**app:layout\_constraintRight\_toRightOf="parent"** />

<**EditText**

**android:id="@+id/editText\_main"**

**android:layout\_width="0dp"**

**android:layout\_height="wrap\_content"**

**android:layout\_marginBottom="16dp"**

**android:layout\_marginEnd="8dp"**

**android:layout\_marginStart="8dp"**

**android:ems="10"**

**android:hint="@string/editText\_main"**

**android:inputType="textLongMessage"**

**app:layout\_constraintBottom\_toBottomOf="parent"**

**app:layout\_constraintEnd\_toStartOf="@+id/button\_main"**

**app:layout\_constraintStart\_toStartOf="parent"** />

</**android.support.constraint.ConstraintLayout**>

Activity\_second.xml

*<?***xml version="1.0" encoding="utf-8"***?>*

<**android.support.constraint.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="com.example.android.twoactivities.SecondActivity"**>

<**TextView**

**android:id="@+id/text\_header"**

**android:layout\_width="wrap\_content"**

**android:layout\_height="wrap\_content"**

**android:layout\_marginStart="8dp"**

**android:layout\_marginLeft="8dp"**

**android:layout\_marginTop="16dp"**

**android:text="@string/text\_header"**

**android:textAppearance="@style/TextAppearance.AppCompat.Medium"**

**android:textStyle="bold"**

**app:layout\_constraintStart\_toStartOf="parent"**

**app:layout\_constraintTop\_toTopOf="parent"** />

<**TextView**

**android:id="@+id/text\_message"**

**android:layout\_width="wrap\_content"**

**android:layout\_height="wrap\_content"**

**android:layout\_marginStart="8dp"**

**android:layout\_marginLeft="8dp"**

**android:layout\_marginTop="8dp"**

**app:layout\_constraintStart\_toStartOf="parent"**

**app:layout\_constraintTop\_toBottomOf="@+id/text\_header"** />

<**Button**

**android:id="@+id/button\_second"**

**android:layout\_width="wrap\_content"**

**android:layout\_height="wrap\_content"**

**android:layout\_marginBottom="16dp"**

**android:layout\_marginRight="16dp"**

**android:text="@string/button\_second"**

**android:onClick="returnReply"**

**app:layout\_constraintBottom\_toBottomOf="parent"**

**app:layout\_constraintRight\_toRightOf="parent"** />

<**EditText**

**android:id="@+id/editText\_second"**

**android:layout\_width="0dp"**

**android:layout\_height="wrap\_content"**

**android:layout\_marginBottom="16dp"**

**android:layout\_marginEnd="8dp"**

**android:layout\_marginStart="8dp"**

**android:ems="10"**

**android:hint="@string/editText\_second"**

**android:inputType="textLongMessage"**

**app:layout\_constraintBottom\_toBottomOf="parent"**

**app:layout\_constraintEnd\_toStartOf="@+id/button\_second"**

**app:layout\_constraintStart\_toStartOf="parent"** />

</**android.support.constraint.ConstraintLayout**>

Mainactivity.java

**package** com.example.android.twoactivities;

**import** android.content.Intent;

**import** android.os.Bundle;

**import** android.support.v7.app.AppCompatActivity;

**import** android.util.Log;

**import** android.view.View;

**import** android.widget.EditText;

**import** android.widget.TextView;

**public class** MainActivity **extends** AppCompatActivity {

**private static final** String ***LOG\_TAG*** = MainActivity.**class**.getSimpleName();

**public static final** String ***EXTRA\_MESSAGE***

= **"com.example.android.twoactivities.extra.MESSAGE"**;

**public static final int *TEXT\_REQUEST*** = 1;

**private** EditText **mMessageEditText**;

**private** TextView **mReplyHeadTextView**;

**private** TextView **mReplyTextView**;

@Override

**protected void** onCreate(Bundle savedInstanceState) {

**super**.onCreate(savedInstanceState);

setContentView(R.layout.***activity\_main***);

**mMessageEditText** = findViewById(R.id.***editText\_main***);

**mReplyHeadTextView** = findViewById(R.id.***text\_header\_reply***);

**mReplyTextView** = findViewById(R.id.***text\_message\_reply***);

}

**public void** launchSecondActivity(View view) {

Log.*d*(***LOG\_TAG***, **"Button clicked!"**);

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

String message = **mMessageEditText**.getText().toString();

intent.putExtra(***EXTRA\_MESSAGE***, message);

startActivityForResult(intent, ***TEXT\_REQUEST***);

}

@Override

**public void** onActivityResult(**int** requestCode, **int** resultCode, Intent data) {

**super**.onActivityResult(requestCode, resultCode, data);

**if** (requestCode == ***TEXT\_REQUEST***) {

**if** (resultCode == ***RESULT\_OK***) {

String reply = data.getStringExtra(SecondActivity.***EXTRA\_REPLY***);

**mReplyHeadTextView**.setVisibility(View.***VISIBLE***);

**mReplyTextView**.setText(reply);

**mReplyTextView**.setVisibility(View.***VISIBLE***);

}

}

}

}

SecondActivity.java

**package** com.example.android.twoactivities;

**import** android.content.Intent;

**import** android.os.Bundle;

**import** android.support.v7.app.AppCompatActivity;

**import** android.view.View;

**import** android.widget.EditText;

**import** android.widget.TextView;

**public class** SecondActivity **extends** AppCompatActivity {

**public static final** String ***EXTRA\_REPLY*** =

**"com.example.android.twoactivities.extra.REPLY"**;

**private** EditText **mReply**;

@Override

**protected void** onCreate(Bundle savedInstanceState) {

**super**.onCreate(savedInstanceState);

setContentView(R.layout.***activity\_second***);

**mReply** = findViewById(R.id.***editText\_second***);

Intent intent = getIntent();

String message = intent.getStringExtra(MainActivity.***EXTRA\_MESSAGE***);

TextView textView = findViewById(R.id.***text\_message***);

textView.setText(message);

}

**public void** returnReply(View view) {

String reply = **mReply**.getText().toString();

Intent replyIntent = **new** Intent();

replyIntent.putExtra(***EXTRA\_REPLY***, reply);

setResult(***RESULT\_OK***, replyIntent);

finish();

}

}

Output:



**Practical 6**

**Aim: Create an android app that demonstrates the use of Keyboards, Input Controls, Alerts, and Pickers**

**Orderactivity.java**

**package** com.example.dell.droidcafe;  
  
**import** android.content.Intent;  
**import** android.net.Uri;  
**import** android.support.v7.app.AppCompatActivity;  
**import** android.os.Bundle;  
**import** android.util.Log;  
**import** android.view.KeyEvent;  
**import** android.view.View;  
**import** android.view.inputmethod.EditorInfo;  
**import** android.widget.AdapterView;  
**import** android.widget.ArrayAdapter;  
**import** android.widget.EditText;  
**import** android.widget.RadioButton;  
**import** android.widget.Spinner;  
**import** android.widget.TextView;  
**import** android.widget.Toast;  
  
**public class** OrderActivity **extends** AppCompatActivity **implements** AdapterView.OnItemSelectedListener {  
  
 **private static final** String ***TAG*** = MainActivity.**class**.getSimpleName();  
 @Override  
 **protected void** onCreate(Bundle savedInstanceState) {  
 **super**.onCreate(savedInstanceState);  
 setContentView(R.layout.***activity\_order***);  
 Intent intent = getIntent();  
 String message = intent.getStringExtra(MainActivity.***EXTRA\_MESSAGE***);  
 TextView textView = (TextView) findViewById(R.id.***order\_textview***);  
 textView.setText(message);  
 *// Create the spinner.* Spinner spinner = (Spinner) findViewById(R.id.***label\_spinner***);  
 **if** (spinner != **null**) {  
 spinner.setOnItemSelectedListener(**this**);  
 *// Create ArrayAdapter using the string array and default spinner layout.* ArrayAdapter<CharSequence> adapter = ArrayAdapter.*createFromResource*(**this**,  
 R.array.***labels\_array***, android.R.layout.***simple\_spinner\_dropdown\_item***);  
 *// Specify the layout to use when the list of choices appears.* adapter.setDropDownViewResource  
 (android.R.layout.***simple\_spinner\_dropdown\_item***);  
 *// Apply the adapter to the spinner.* **if** (spinner != **null**) {  
 spinner.setAdapter(adapter);  
 }  
 }  
 EditText editText =(EditText) findViewById(R.id.***phone\_text***);  
 **if** (editText != **null**)  
 editText.setOnEditorActionListener(**new** TextView.OnEditorActionListener() {  
 *// If view is found, set the listener for editText.* @Override  
 **public boolean** onEditorAction(TextView textView, **int** actionId, KeyEvent keyEvent) {  
 **boolean** handled = **false**;  
 **if** (actionId == EditorInfo.***IME\_ACTION\_SEND***) {  
 dialNumber();  
 handled = **true**;  
 }  
 **return** handled;  
 }  
 });  
 }  
 **private void** dialNumber() {  
 *// Find the editText\_main view.* EditText editText = (EditText) findViewById(R.id.***phone\_text***);  
 String phoneNum = **null**;  
 *// If the editText field is not null,  
 // concatenate "tel: " with the phone number string.* **if** (editText != **null**) phoneNum = **"tel:"** +  
 editText.getText().toString();  
 *// Optional: Log the concatenated phone number for dialing.* Log.*d*(***TAG***, **"dialNumber: "** + phoneNum);  
 *// Specify the intent.* Intent intent = **new** Intent(Intent.***ACTION\_DIAL***);  
 *// Set the data for the intent as the phone number.* intent.setData(Uri.*parse*(phoneNum));  
 *// If the intent resolves to a package (app),  
 // start the activity with the intent.* **if** (intent.resolveActivity(getPackageManager()) != **null**) {  
 startActivity(intent);  
 } **else** {  
 Log.*d*(**"ImplicitIntents"**, **"Can't handle this!"**);  
 }  
 }  
 **public void** displayToast(String message) {  
 Toast.*makeText*(getApplicationContext(), message,  
 Toast.***LENGTH\_SHORT***).show();  
 }  
  
 **public void** onRadioButtonClicked(View view) {  
 *// Is the button now checked?* **boolean** checked = ((RadioButton) view).isChecked();  
 *// Check which radio button was clicked.* **switch** (view.getId()) {  
 **case** R.id.***sameday***:  
 **if** (checked)  
 *// Same day service* displayToast(getString(R.string.***same\_day\_messenger\_service***));  
 **break**;  
 **case** R.id.***nextday***:  
 **if** (checked)  
 *// Next day delivery* displayToast(getString(R.string.***next\_day\_ground\_delivery***));  
 **break**;  
 **case** R.id.***pickup***:  
 **if** (checked)  
 *// Pick up* displayToast(getString(R.string.***pick\_up***));  
 **break**;  
 **default**:  
 *// Do nothing.* **break**;  
 }  
 }  
  
 @Override  
 **public void** onItemSelected(AdapterView<?> adapterView, View view, **int** i, **long** l) {  
 String spinnerLabel = adapterView.getItemAtPosition(i).toString();  
 displayToast(spinnerLabel);  
 }  
  
  
 @Override  
 **public void** onNothingSelected(AdapterView<?> adapterView) {  
  
 }  
  
}

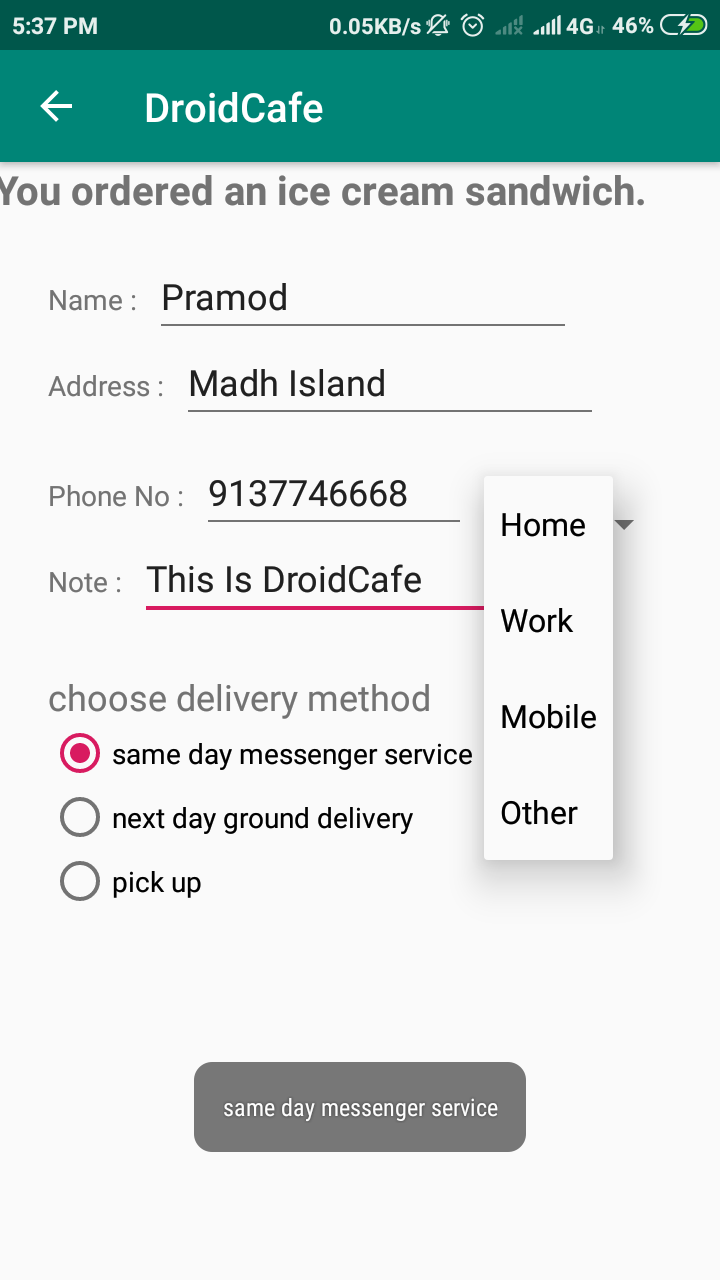
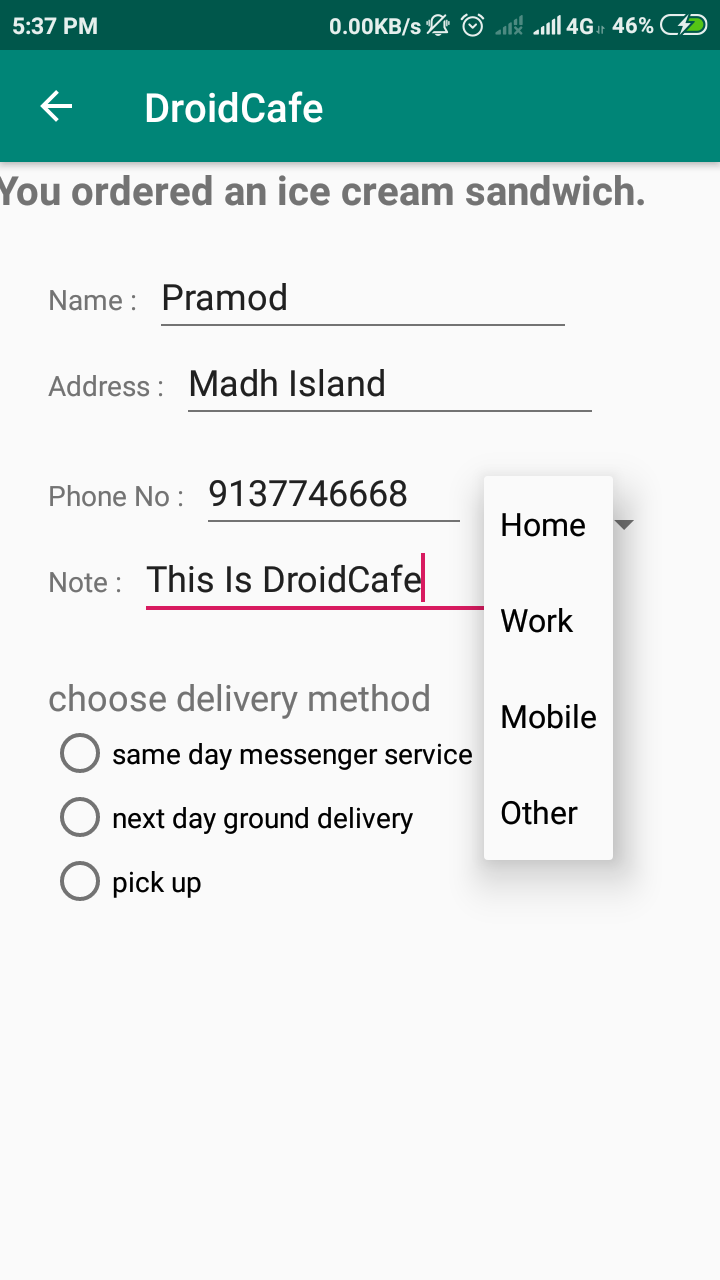
**activity\_order.xml**

*<?***xml version="1.0" encoding="utf-8"***?>*<**android.support.constraint.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=".OrderActivity"**>  
  
 <**TextView  
 android:id="@+id/order\_textview"  
 android:layout\_width="368dp"  
 android:layout\_height="wrap\_content"  
 android:textStyle="bold"  
 android:textSize="20dp"  
 app:layout\_constraintLeft\_toLeftOf="parent"  
 app:layout\_constraintRight\_toRightOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"** />  
  
 <**TextView  
  
 android:id="@+id/name\_label"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginLeft="24dp"  
 android:layout\_marginRight="24dp"  
 android:layout\_marginTop="32dp"  
 android:text="Name :"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@id/order\_textview"**/>  
  
 <**EditText  
 android:id="@+id/name\_text"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginStart="8dp"  
 android:layout\_marginLeft="8dp"  
 android:ems="10"  
 android:inputType="textPersonName"  
 android:hint="@string/enter\_name\_hint"  
 app:layout\_constraintStart\_toEndOf="@id/name\_label"  
 app:layout\_constraintBaseline\_toBaselineOf="@id/name\_label"** />  
  
 <**TextView  
 android:id="@+id/address\_label"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginLeft="24dp"  
 android:layout\_marginStart="24dp"  
 android:layout\_marginTop="24dp"  
 android:text="Address :"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/name\_label"** />  
  
 <**EditText  
 android:id="@+id/address\_text"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginLeft="8dp"  
 android:layout\_marginStart="8dp"  
 android:ems="10"  
 android:hint="@string/enter\_address\_hint"  
 android:inputType="textMultiLine"  
 app:layout\_constraintBaseline\_toBaselineOf="@+id/address\_label"  
 app:layout\_constraintStart\_toEndOf="@+id/address\_label"** />  
  
 <**TextView  
 android:id="@+id/phone\_label"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginLeft="24dp"  
 android:layout\_marginStart="24dp"  
 android:layout\_marginTop="24dp"  
 android:text="Phone No :"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/address\_text"** />  
  
 <**EditText  
 android:id="@+id/phone\_text"  
 android:layout\_width="134dp"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginLeft="8dp"  
 android:layout\_marginStart="8dp"  
 android:ems="10"  
 android:hint="@string/enter\_phone\_hint"  
 android:inputType="phone"  
 android:imeOptions="actionSend"  
 app:layout\_constraintBaseline\_toBaselineOf="@+id/phone\_label"  
 app:layout\_constraintStart\_toEndOf="@+id/phone\_label"** />  
  
 <**TextView  
 android:id="@+id/note\_label"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginLeft="24dp"  
 android:layout\_marginStart="24dp"  
 android:layout\_marginTop="24dp"  
 android:text="Note :"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/phone\_label"** />  
  
 <**EditText  
 android:id="@+id/note\_text"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginLeft="8dp"  
 android:layout\_marginStart="8dp"  
 android:ems="10"  
 android:hint="@string/enter\_note\_hint"  
 android:inputType="textCapSentences|textMultiLine"  
 app:layout\_constraintBaseline\_toBaselineOf="@+id/note\_label"  
 app:layout\_constraintStart\_toEndOf="@+id/note\_label"** />  
  
 <**TextView  
 android:id="@+id/delivery\_label"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginLeft="24dp"  
 android:layout\_marginStart="24dp"  
 android:layout\_marginTop="24dp"  
 android:text="@string/choose\_delivery\_method"  
 android:textSize="18sp"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/note\_text"** />  
  
 <**RadioGroup  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginLeft="24dp"  
 android:layout\_marginStart="24dp"  
 android:orientation="vertical"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@id/delivery\_label"**>  
  
 <**RadioButton  
 android:id="@+id/sameday"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:onClick="onRadioButtonClicked"  
 android:text="same day messenger service"** />  
  
 <**RadioButton  
 android:id="@+id/nextday"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:onClick="onRadioButtonClicked"  
 android:text="next day ground delivery"** />  
  
 <**RadioButton  
 android:id="@+id/pickup"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:onClick="onRadioButtonClicked"  
 android:text="pick up"** />  
 </**RadioGroup**>  
  
 <**Spinner  
 android:id="@+id/label\_spinner"  
 android:layout\_width="0dp"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginEnd="24dp"  
 android:layout\_marginRight="24dp"  
 android:layout\_marginStart="8dp"  
 android:layout\_marginLeft="8dp"  
 android:layout\_marginTop="24dp"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toEndOf="@+id/phone\_text"  
 app:layout\_constraintTop\_toBottomOf="@+id/address\_text"** />  
</**android.support.constraint.ConstraintLayout**>

**Strings.xml**

*<?***xml version="1.0" encoding="utf-8"***?>*<**android.support.constraint.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=".OrderActivity"**>  
  
 <**TextView  
 android:id="@+id/order\_textview"  
 android:layout\_width="368dp"  
 android:layout\_height="wrap\_content"  
 android:textStyle="bold"  
 android:textSize="20dp"  
 app:layout\_constraintLeft\_toLeftOf="parent"  
 app:layout\_constraintRight\_toRightOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"** />  
  
 <**TextView  
  
 android:id="@+id/name\_label"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginLeft="24dp"  
 android:layout\_marginRight="24dp"  
 android:layout\_marginTop="32dp"  
 android:text="Name :"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@id/order\_textview"**/>  
  
 <**EditText  
 android:id="@+id/name\_text"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginStart="8dp"  
 android:layout\_marginLeft="8dp"  
 android:ems="10"  
 android:inputType="textPersonName"  
 android:hint="@string/enter\_name\_hint"  
 app:layout\_constraintStart\_toEndOf="@id/name\_label"  
 app:layout\_constraintBaseline\_toBaselineOf="@id/name\_label"** />  
  
 <**TextView  
 android:id="@+id/address\_label"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginLeft="24dp"  
 android:layout\_marginStart="24dp"  
 android:layout\_marginTop="24dp"  
 android:text="Address :"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/name\_label"** />  
  
 <**EditText  
 android:id="@+id/address\_text"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginLeft="8dp"  
 android:layout\_marginStart="8dp"  
 android:ems="10"  
 android:hint="@string/enter\_address\_hint"  
 android:inputType="textMultiLine"  
 app:layout\_constraintBaseline\_toBaselineOf="@+id/address\_label"  
 app:layout\_constraintStart\_toEndOf="@+id/address\_label"** />  
  
 <**TextView  
 android:id="@+id/phone\_label"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginLeft="24dp"  
 android:layout\_marginStart="24dp"  
 android:layout\_marginTop="24dp"  
 android:text="Phone No :"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/address\_text"** />  
  
 <**EditText  
 android:id="@+id/phone\_text"  
 android:layout\_width="134dp"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginLeft="8dp"  
 android:layout\_marginStart="8dp"  
 android:ems="10"  
 android:hint="@string/enter\_phone\_hint"  
 android:inputType="phone"  
 android:imeOptions="actionSend"  
 app:layout\_constraintBaseline\_toBaselineOf="@+id/phone\_label"  
 app:layout\_constraintStart\_toEndOf="@+id/phone\_label"** />  
  
 <**TextView  
 android:id="@+id/note\_label"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginLeft="24dp"  
 android:layout\_marginStart="24dp"  
 android:layout\_marginTop="24dp"  
 android:text="Note :"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/phone\_label"** />  
  
 <**EditText  
 android:id="@+id/note\_text"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginLeft="8dp"  
 android:layout\_marginStart="8dp"  
 android:ems="10"  
 android:hint="@string/enter\_note\_hint"  
 android:inputType="textCapSentences|textMultiLine"  
 app:layout\_constraintBaseline\_toBaselineOf="@+id/note\_label"  
 app:layout\_constraintStart\_toEndOf="@+id/note\_label"** />  
  
 <**TextView  
 android:id="@+id/delivery\_label"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginLeft="24dp"  
 android:layout\_marginStart="24dp"  
 android:layout\_marginTop="24dp"  
 android:text="@string/choose\_delivery\_method"  
 android:textSize="18sp"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/note\_text"** />  
  
 <**RadioGroup  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginLeft="24dp"  
 android:layout\_marginStart="24dp"  
 android:orientation="vertical"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@id/delivery\_label"**>  
  
 <**RadioButton  
 android:id="@+id/sameday"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:onClick="onRadioButtonClicked"  
 android:text="same day messenger service"** />  
  
 <**RadioButton  
 android:id="@+id/nextday"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:onClick="onRadioButtonClicked"  
 android:text="next day ground delivery"** />  
  
 <**RadioButton  
 android:id="@+id/pickup"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:onClick="onRadioButtonClicked"  
 android:text="pick up"** />  
 </**RadioGroup**>  
  
 <**Spinner  
 android:id="@+id/label\_spinner"  
 android:layout\_width="0dp"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginEnd="24dp"  
 android:layout\_marginRight="24dp"  
 android:layout\_marginStart="8dp"  
 android:layout\_marginLeft="8dp"  
 android:layout\_marginTop="24dp"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toEndOf="@+id/phone\_text"  
 app:layout\_constraintTop\_toBottomOf="@+id/address\_text"** />  
</**android.support.constraint.ConstraintLayout**>

**Output:**

**Practical No: 7**

**Aim: Create an android app that demonstrates the use of an Options Menu**

**MainActivity.java**

**package** com.example.dell.droidcafe;  
**import** android.content.Intent;  
**import** android.os.Bundle;  
**import** android.support.design.widget.FloatingActionButton;  
**import** android.support.design.widget.Snackbar;  
**import** android.support.v7.app.AppCompatActivity;  
**import** android.support.v7.widget.Toolbar;  
**import** android.view.View;  
**import** android.view.Menu;  
**import** android.view.MenuItem;  
**import** android.widget.Toast;  
  
**public class** MainActivity **extends** AppCompatActivity {  
  
 **public** String **mOrderMessage**;  
 **public static final** String ***EXTRA\_MESSAGE*** =  
 **"com.example.dell.droidcafe.MainActivity.extra.MESSAGE"**;  
 @Override  
 **protected void** onCreate(Bundle savedInstanceState) {  
 **super**.onCreate(savedInstanceState);  
 setContentView(R.layout.***activity\_main***);  
 Toolbar toolbar = (Toolbar) findViewById(R.id.***toolbar***);  
 setSupportActionBar(toolbar);  
  
 FloatingActionButton fab = (FloatingActionButton) findViewById(R.id.***fab***);  
 fab.setOnClickListener(**new** View.OnClickListener() {  
 **public void** onClick(View view) {  
 Intent intent =  
 **new** Intent(MainActivity.**this**, OrderActivity.**class**);  
  
 intent.putExtra(***EXTRA\_MESSAGE***, **mOrderMessage**);  
 startActivity(intent);  
 }  
 });  
 }  
  
 @Override  
 **public boolean** onCreateOptionsMenu(Menu menu) {  
 *// Inflate the menu; this adds items to the action bar if it is present.* getMenuInflater().inflate(R.menu.***menu\_main***, menu);  
 **return true**;  
 }  
  
 @Override  
 **public boolean** onOptionsItemSelected(MenuItem item) {  
 *// Handle action bar item clicks here. The action bar will  
 // automatically handle clicks on the Home/Up button, so long  
 // as you specify a parent activity in AndroidManifest.xml.* **int** id = item.getItemId();  
  
 *//noinspection SimplifiableIfStatement* **if** (id == R.id.***action\_order***) {  
 **return true**;  
 }  
  
 **return super**.onOptionsItemSelected(item);  
 }  
 **public void** displayToast(String message) {  
 Toast.*makeText*(getApplicationContext(), message,  
 Toast.***LENGTH\_SHORT***).show();  
 }  
 **public void** showDonutOrder(View view) {  
 *//displayToast(getString(R.string.donut\_order\_message));* **mOrderMessage** = getString(R.string.***donut\_order\_message***);  
 displayToast(**mOrderMessage**);  
 }  
 **public void** showIceCreamOrder(View view) {  
 *//displayToast(getString(R.string.ice\_cream\_order\_message));* **mOrderMessage** = getString(R.string.***ice\_cream\_order\_message***);  
 displayToast(**mOrderMessage**);  
 }  
 **public void** showFroyoOrder(View view) {  
 *//displayToast(getString(R.string.froyo\_order\_message));* **mOrderMessage** = getString(R.string.***froyo\_order\_message***);  
 displayToast(**mOrderMessage**);  
 }  
}

**Activity\_main.xml**

*<?***xml version="1.0" encoding="utf-8"***?>*<**android.support.design.widget.CoordinatorLayout 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"**>  
  
 <**android.support.design.widget.AppBarLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:theme="@style/AppTheme.AppBarOverlay"**>  
  
 <**android.support.v7.widget.Toolbar  
 android:id="@+id/toolbar"  
 android:layout\_width="match\_parent"  
 android:layout\_height="?attr/actionBarSize"  
 android:background="?attr/colorPrimary"  
 app:popupTheme="@style/AppTheme.PopupOverlay"** />  
  
 </**android.support.design.widget.AppBarLayout**>  
  
 <**include layout="@layout/content\_main"** />  
  
 <**android.support.design.widget.FloatingActionButton  
 android:id="@+id/fab"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_gravity="bottom|end"  
 android:layout\_margin="@dimen/fab\_margin"  
 app:srcCompat="@drawable/ic\_shopping"** />  
  
</**android.support.design.widget.CoordinatorLayout**>

**Menu\_main.xml**

<**menu 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"  
 tools:context="com.example.dell.droidcafe.MainActivity"**>  
 <**item  
 android:id="@+id/action\_order"  
 android:orderInCategory="10"  
 android:title="@string/action\_order\_message"  
 app:showAsAction="never"** />  
 <**item  
 android:id="@+id/action\_status"  
 android:orderInCategory="20"  
 android:title="@string/action\_status\_message"  
 app:showAsAction="never"** />  
 <**item  
 android:id="@+id/action\_favourites"  
 android:orderInCategory="30"  
 android:title="@string/action\_favorites\_message"  
 app:showAsAction="never"** />  
 <**item  
 android:id="@+id/action\_contact"  
 android:orderInCategory="100"  
 android:title="@string/action\_contact\_message"  
 app:showAsAction="never"** />  
</**menu**>

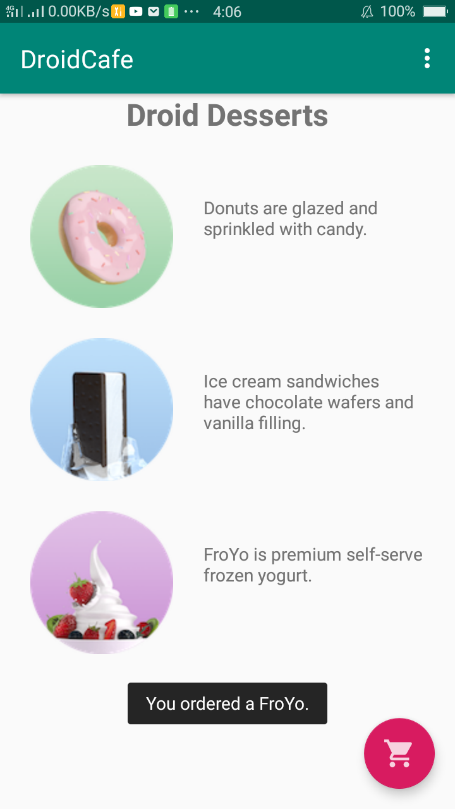
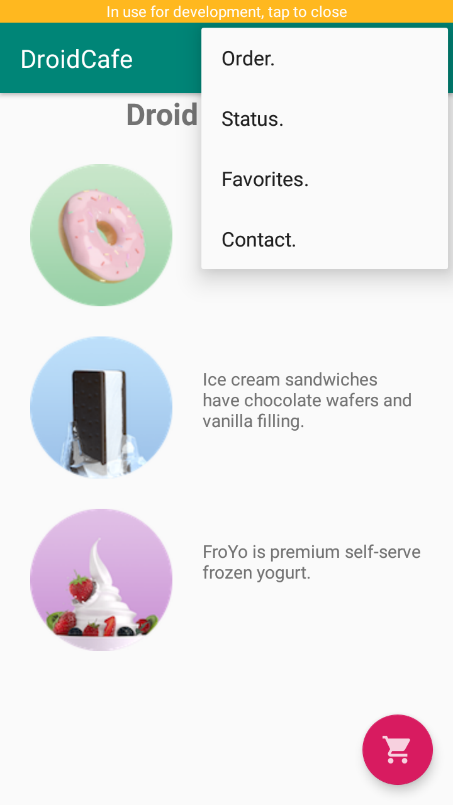
**Content\_main.xml**

*<?***xml version="1.0" encoding="utf-8"***?>*<**android.support.constraint.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"  
 app:layout\_behavior="@string/appbar\_scrolling\_view\_behavior"  
 tools:context=".MainActivity"  
 tools:showIn="@layout/activity\_main"**>  
  
 <**TextView  
 android:id="@+id/textintro"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="@string/droid\_desserts"  
 android:textStyle="bold"  
 android:textSize="24sp"  
 app:layout\_constraintLeft\_toLeftOf="parent"  
 app:layout\_constraintRight\_toRightOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"** />  
  
 <**ImageView  
 android:id="@+id/Donut"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginLeft="24dp"  
 android:layout\_marginTop="24dp"  
 android:contentDescription="@string/donut"  
 app:layout\_constraintLeft\_toLeftOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/textintro"  
 app:srcCompat="@drawable/donut\_circle"  
 android:onClick="showDonutOrder"**/>  
  
 <**ImageView  
 android:id="@+id/ice\_creame"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginLeft="24dp"  
 android:layout\_marginTop="24dp"  
 android:contentDescription="@string/ice\_cream\_sandwiches"  
 app:layout\_constraintLeft\_toLeftOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/Donut"  
 app:srcCompat="@drawable/icecream\_circle"  
 android:onClick="showIceCreamOrder"**/>  
  
 <**ImageView  
 android:id="@+id/froyo"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginLeft="24dp"  
 android:layout\_marginTop="24dp"  
 android:contentDescription="@string/froyo"  
 app:layout\_constraintLeft\_toLeftOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/ice\_creame"  
 app:srcCompat="@drawable/froyo\_circle"  
 android:onClick="showFroyoOrder"**/>  
  
 <**TextView  
 android:id="@+id/donut\_description"  
 android:layout\_width="0dp"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginLeft="24dp"  
 android:layout\_marginRight="24dp"  
 android:layout\_marginTop="24dp"  
 android:text="@string/donut"  
 app:layout\_constraintHorizontal\_bias="0.503"  
 app:layout\_constraintLeft\_toRightOf="@+id/Donut"  
 app:layout\_constraintRight\_toRightOf="parent"  
 app:layout\_constraintTop\_toTopOf="@+id/Donut"** />  
  
 <**TextView  
 android:id="@+id/ice\_cream\_description"  
 android:layout\_width="0dp"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginLeft="24dp"  
 android:layout\_marginRight="24dp"  
 android:layout\_marginTop="24dp"  
 android:text="@string/ice\_cream\_sandwiches"  
 app:layout\_constraintLeft\_toRightOf="@+id/ice\_creame"  
 app:layout\_constraintRight\_toRightOf="parent"  
 app:layout\_constraintTop\_toTopOf="@+id/ice\_creame"** />  
  
 <**TextView  
 android:id="@+id/froyo\_description"  
 android:layout\_width="0dp"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginLeft="24dp"  
 android:layout\_marginRight="24dp"  
 android:layout\_marginTop="24dp"  
 android:text="@string/froyo"  
 app:layout\_constraintLeft\_toRightOf="@+id/froyo"  
 app:layout\_constraintRight\_toRightOf="parent"  
 app:layout\_constraintTop\_toTopOf="@+id/froyo"** />  
  
</**android.support.constraint.ConstraintLayout**>

Strings\_main.xml

<**resources**>  
 <**string name="app\_name"**>DroidCafe</**string**>  
 <**string name="action\_settings"**>Settings</**string**>  
 <**string name="donut"**>Donuts are glazed and sprinkled with candy.</**string**>  
 <**string name="froyo"**>FroYo is premium self-serve frozen yogurt.</**string**>  
 <**string name="ice\_cream\_sandwiches"**>Ice cream sandwiches have chocolate wafers and vanilla filling.</**string**>  
 <**string name="droid\_desserts"**>Droid Desserts</**string**>  
 <**string name="donut\_order\_message"**>You ordered a donut.</**string**>  
 <**string name="ice\_cream\_order\_message"**>You ordered an ice cream sandwich.</**string**>  
 <**string name="froyo\_order\_message"**>You ordered a FroYo.</**string**>  
 <**string name="enter\_name\_hint"**>enter name...</**string**>  
 <**string name="pick\_up"**>pick\_up</**string**>  
 <**string name="next\_day\_ground\_delivery"**>next day ground delivery</**string**>  
 <**string name="same\_day\_messenger\_service"**>same day messenger service</**string**>  
 <**string name="choose\_delivery\_method"**>choose delivery method</**string**>  
 <**string name="enter\_note\_hint"**>enter note...</**string**>  
 <**string name="note\_label\_text"**>note\_label\_text</**string**>  
 <**string name="enter\_phone\_hint"**>enter phone...</**string**>  
 <**string name="phone\_label\_string"**>phone\_label\_string</**string**>  
 <**string name="enter\_address\_hint"**>enter address...</**string**>  
 <**string name="address\_label\_text"**>address\_label\_text</**string**>  
 <**string name="action\_order\_message"**>Order.</**string**>  
 <**string name="action\_status\_message"**>Status.</**string**>  
 <**string name="action\_favorites\_message"**>Favorites.</**string**>  
 <**string name="action\_contact\_message"**>Contact.</**string**>  
 <**string-array name="labels\_array"**>  
 <**item**>Home</**item**>  
 <**item**>Work</**item**>  
 <**item**>Mobile</**item**>  
 <**item**>Other</**item**>  
 </**string-array**>  
  
</**resources**>

**Output:**

**Practical No: 8**

**Create an android app that demonstrate Screen Navigation Using the App Bar and Tabs**

**OrderActivity.java**

**package** com.example.dell.droidcafe;  
  
**import** android.content.Intent;  
**import** android.net.Uri;  
**import** android.support.v7.app.AppCompatActivity;  
**import** android.os.Bundle;  
**import** android.util.Log;  
**import** android.view.KeyEvent;  
**import** android.view.View;  
**import** android.view.inputmethod.EditorInfo;  
**import** android.widget.AdapterView;  
**import** android.widget.ArrayAdapter;  
**import** android.widget.EditText;  
**import** android.widget.RadioButton;  
**import** android.widget.Spinner;  
**import** android.widget.TextView;  
**import** android.widget.Toast;  
  
**public class** OrderActivity **extends** AppCompatActivity **implements** AdapterView.OnItemSelectedListener {  
  
 **private static final** String ***TAG*** = MainActivity.**class**.getSimpleName();  
 @Override  
 **protected void** onCreate(Bundle savedInstanceState) {  
 **super**.onCreate(savedInstanceState);  
 setContentView(R.layout.***activity\_order***);  
 Intent intent = getIntent();  
 String message = intent.getStringExtra(MainActivity.***EXTRA\_MESSAGE***);  
 TextView textView = (TextView) findViewById(R.id.***order\_textview***);  
 textView.setText(message);  
 *// Create the spinner.* Spinner spinner = (Spinner) findViewById(R.id.***label\_spinner***);  
 **if** (spinner != **null**) {  
 spinner.setOnItemSelectedListener(**this**);  
 *// Create ArrayAdapter using the string array and default spinner layout.* ArrayAdapter<CharSequence> adapter = ArrayAdapter.*createFromResource*(**this**,  
 R.array.***labels\_array***, android.R.layout.***simple\_spinner\_dropdown\_item***);  
 *// Specify the layout to use when the list of choices appears.* adapter.setDropDownViewResource  
 (android.R.layout.***simple\_spinner\_dropdown\_item***);  
 *// Apply the adapter to the spinner.* **if** (spinner != **null**) {  
 spinner.setAdapter(adapter);  
 }  
 }  
 EditText editText =(EditText) findViewById(R.id.***phone\_text***);  
 **if** (editText != **null**)  
 editText.setOnEditorActionListener(**new** TextView.OnEditorActionListener() {  
 *// If view is found, set the listener for editText.* @Override  
 **public boolean** onEditorAction(TextView textView, **int** actionId, KeyEvent keyEvent) {  
 **boolean** handled = **false**;  
 **if** (actionId == EditorInfo.***IME\_ACTION\_SEND***) {  
 dialNumber();  
 handled = **true**;  
 }  
 **return** handled;  
 }  
 });  
 }  
 **private void** dialNumber() {  
 *// Find the editText\_main view.* EditText editText = (EditText) findViewById(R.id.***phone\_text***);  
 String phoneNum = **null**;  
 *// If the editText field is not null,  
 // concatenate "tel: " with the phone number string.* **if** (editText != **null**) phoneNum = **"tel:"** +  
 editText.getText().toString();  
 *// Optional: Log the concatenated phone number for dialing.* Log.*d*(***TAG***, **"dialNumber: "** + phoneNum);  
 *// Specify the intent.* Intent intent = **new** Intent(Intent.***ACTION\_DIAL***);  
 *// Set the data for the intent as the phone number.* intent.setData(Uri.*parse*(phoneNum));  
 *// If the intent resolves to a package (app),  
 // start the activity with the intent.* **if** (intent.resolveActivity(getPackageManager()) != **null**) {  
 startActivity(intent);  
 } **else** {  
 Log.*d*(**"ImplicitIntents"**, **"Can't handle this!"**);  
 }  
 }  
 **public void** displayToast(String message) {  
 Toast.*makeText*(getApplicationContext(), message,  
 Toast.***LENGTH\_SHORT***).show();  
 }  
  
 **public void** onRadioButtonClicked(View view) {  
 *// Is the button now checked?* **boolean** checked = ((RadioButton) view).isChecked();  
 *// Check which radio button was clicked.* **switch** (view.getId()) {  
 **case** R.id.***sameday***:  
 **if** (checked)  
 *// Same day service* displayToast(getString(R.string.***same\_day\_messenger\_service***));  
 **break**;  
 **case** R.id.***nextday***:  
 **if** (checked)  
 *// Next day delivery* displayToast(getString(R.string.***next\_day\_ground\_delivery***));  
 **break**;  
 **case** R.id.***pickup***:  
 **if** (checked)  
 *// Pick up* displayToast(getString(R.string.***pick\_up***));  
 **break**;  
 **default**:  
 *// Do nothing.* **break**;  
 }  
 }  
  
 @Override  
 **public void** onItemSelected(AdapterView<?> adapterView, View view, **int** i, **long** l) {  
 String spinnerLabel = adapterView.getItemAtPosition(i).toString();  
 displayToast(spinnerLabel);  
 }  
  
  
 @Override  
 **public void** onNothingSelected(AdapterView<?> adapterView) {  
  
 }  
  
}

Activity\_order.xml

*<?***xml version="1.0" encoding="utf-8"***?>*<**android.support.constraint.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=".OrderActivity"**>  
  
 <**TextView  
 android:id="@+id/order\_textview"  
 android:layout\_width="368dp"  
 android:layout\_height="wrap\_content"  
 android:textStyle="bold"  
 android:textSize="20dp"  
 app:layout\_constraintLeft\_toLeftOf="parent"  
 app:layout\_constraintRight\_toRightOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"** />  
  
 <**TextView  
  
 android:id="@+id/name\_label"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginLeft="24dp"  
 android:layout\_marginRight="24dp"  
 android:layout\_marginTop="32dp"  
 android:text="Name :"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@id/order\_textview"**/>  
  
 <**EditText  
 android:id="@+id/name\_text"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginStart="8dp"  
 android:layout\_marginLeft="8dp"  
 android:ems="10"  
 android:inputType="textPersonName"  
 android:hint="@string/enter\_name\_hint"  
 app:layout\_constraintStart\_toEndOf="@id/name\_label"  
 app:layout\_constraintBaseline\_toBaselineOf="@id/name\_label"** />  
  
 <**TextView  
 android:id="@+id/address\_label"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginLeft="24dp"  
 android:layout\_marginStart="24dp"  
 android:layout\_marginTop="24dp"  
 android:text="Address :"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/name\_label"** />  
  
 <**EditText  
 android:id="@+id/address\_text"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginLeft="8dp"  
 android:layout\_marginStart="8dp"  
 android:ems="10"  
 android:hint="@string/enter\_address\_hint"  
 android:inputType="textMultiLine"  
 app:layout\_constraintBaseline\_toBaselineOf="@+id/address\_label"  
 app:layout\_constraintStart\_toEndOf="@+id/address\_label"** />  
  
 <**TextView  
 android:id="@+id/phone\_label"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginLeft="24dp"  
 android:layout\_marginStart="24dp"  
 android:layout\_marginTop="24dp"  
 android:text="Phone No :"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/address\_text"** />  
  
 <**EditText  
 android:id="@+id/phone\_text"  
 android:layout\_width="134dp"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginLeft="8dp"  
 android:layout\_marginStart="8dp"  
 android:ems="10"  
 android:hint="@string/enter\_phone\_hint"  
 android:inputType="phone"  
 android:imeOptions="actionSend"  
 app:layout\_constraintBaseline\_toBaselineOf="@+id/phone\_label"  
 app:layout\_constraintStart\_toEndOf="@+id/phone\_label"** />  
  
 <**TextView  
 android:id="@+id/note\_label"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginLeft="24dp"  
 android:layout\_marginStart="24dp"  
 android:layout\_marginTop="24dp"  
 android:text="Note :"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/phone\_label"** />  
  
 <**EditText  
 android:id="@+id/note\_text"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginLeft="8dp"  
 android:layout\_marginStart="8dp"  
 android:ems="10"  
 android:hint="@string/enter\_note\_hint"  
 android:inputType="textCapSentences|textMultiLine"  
 app:layout\_constraintBaseline\_toBaselineOf="@+id/note\_label"  
 app:layout\_constraintStart\_toEndOf="@+id/note\_label"** />  
  
 <**TextView  
 android:id="@+id/delivery\_label"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginLeft="24dp"  
 android:layout\_marginStart="24dp"  
 android:layout\_marginTop="24dp"  
 android:text="@string/choose\_delivery\_method"  
 android:textSize="18sp"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/note\_text"** />  
  
 <**RadioGroup  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginLeft="24dp"  
 android:layout\_marginStart="24dp"  
 android:orientation="vertical"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@id/delivery\_label"**>  
  
 <**RadioButton  
 android:id="@+id/sameday"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:onClick="onRadioButtonClicked"  
 android:text="same day messenger service"** />  
  
 <**RadioButton  
 android:id="@+id/nextday"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:onClick="onRadioButtonClicked"  
 android:text="next day ground delivery"** />  
  
 <**RadioButton  
 android:id="@+id/pickup"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:onClick="onRadioButtonClicked"  
 android:text="pick up"** />  
 </**RadioGroup**>  
  
 <**Spinner  
 android:id="@+id/label\_spinner"  
 android:layout\_width="0dp"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginEnd="24dp"  
 android:layout\_marginRight="24dp"  
 android:layout\_marginStart="8dp"  
 android:layout\_marginLeft="8dp"  
 android:layout\_marginTop="24dp"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toEndOf="@+id/phone\_text"  
 app:layout\_constraintTop\_toBottomOf="@+id/address\_text"** />  
</**android.support.constraint.ConstraintLayout**>

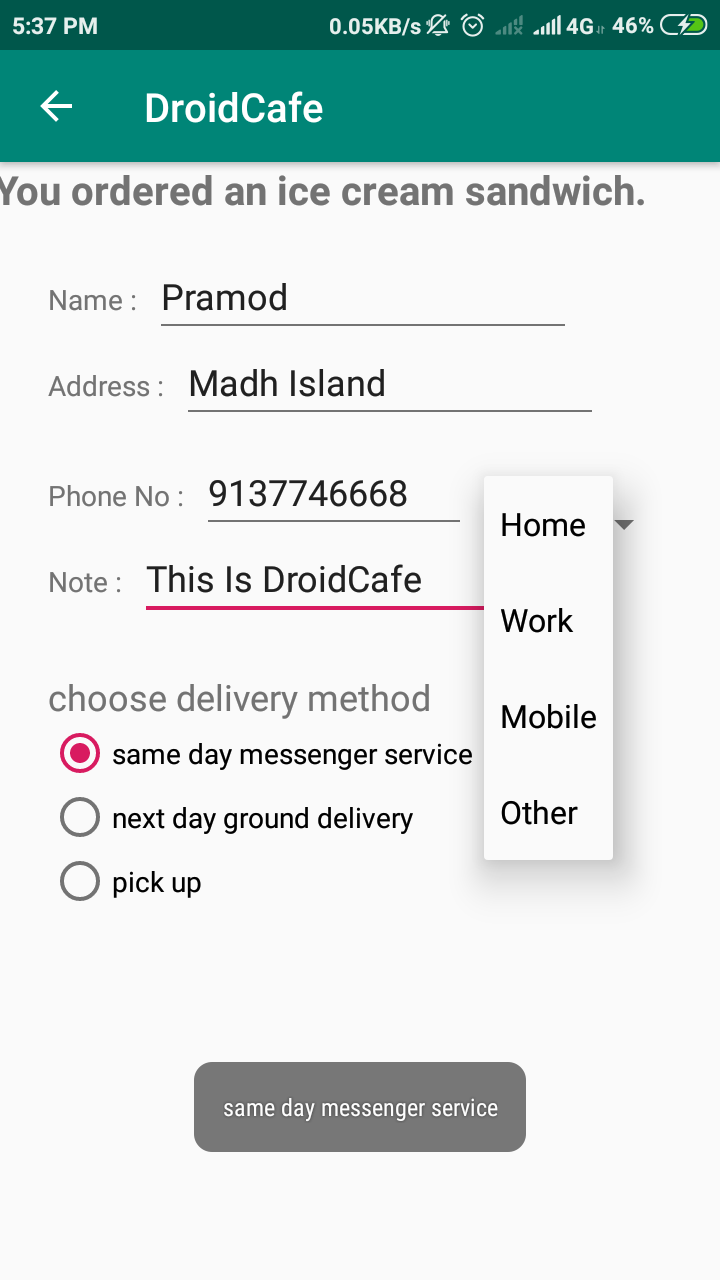
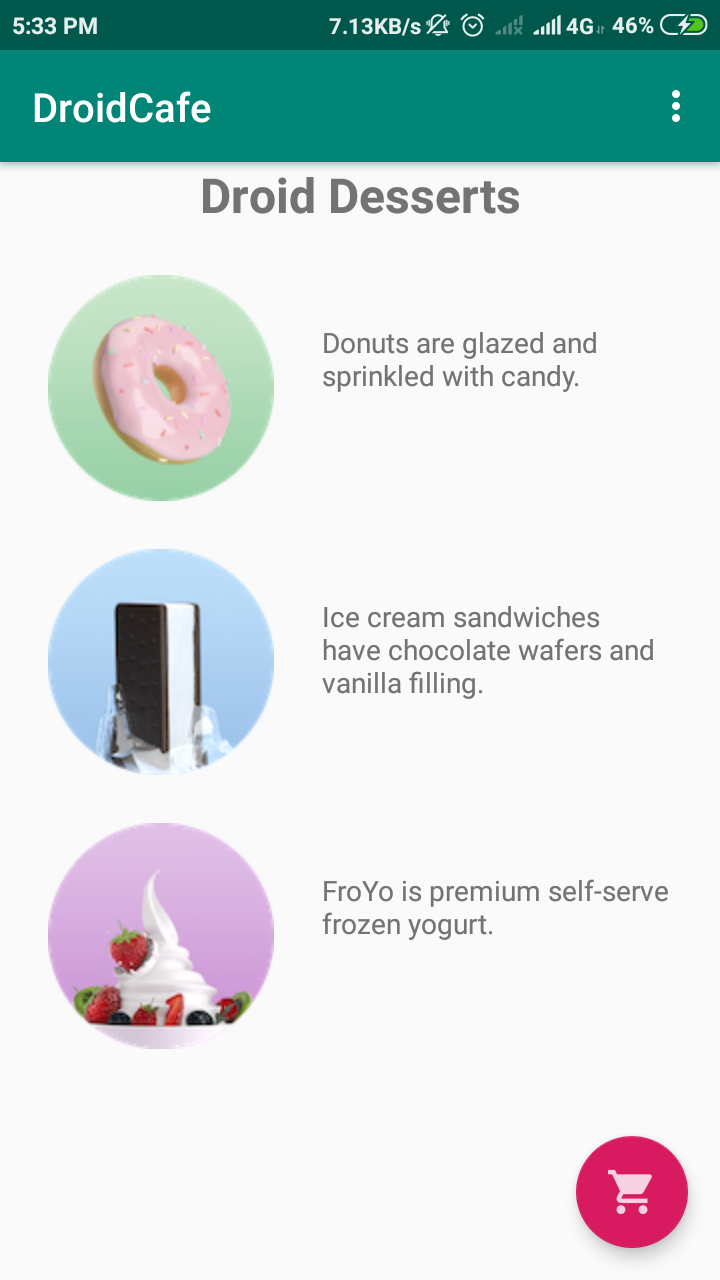
AndroiMAnifest.xml

*<?***xml version="1.0" encoding="utf-8"***?>*<**manifest xmlns:android="http://schemas.android.com/apk/res/android"  
 package="com.example.dell.droidcafe"**>  
  
 <**application  
 android:allowBackup="true"  
 android:icon="@mipmap/ic\_launcher"  
 android:label="@string/app\_name"  
 android:roundIcon="@mipmap/ic\_launcher\_round"  
 android:supportsRtl="true"  
 android:theme="@style/AppTheme"**>  
 <**activity  
 android:name=".MainActivity"  
 android:label="@string/app\_name"  
 android:theme="@style/AppTheme.NoActionBar"**>  
 <**intent-filter**>  
 <**action android:name="android.intent.action.MAIN"** />  
  
 <**category android:name="android.intent.category.LAUNCHER"** />  
 </**intent-filter**>  
 </**activity**>  
 <**activity android:name="com.example.dell.droidcafe.OrderActivity"  
  
 android:parentActivityName=".MainActivity"**>  
 <**meta-data android:name="android.support.PARENT\_ACTIVITY"  
 android:value=".MainActivity"**/>  
 </**activity**>  
 </**application**>  
  
</**manifest**>

Strings.xml

<**resources**>  
 <**string name="app\_name"**>DroidCafe</**string**>  
 <**string name="action\_settings"**>Settings</**string**>  
 <**string name="donut"**>Donuts are glazed and sprinkled with candy.</**string**>  
 <**string name="froyo"**>FroYo is premium self-serve frozen yogurt.</**string**>  
 <**string name="ice\_cream\_sandwiches"**>Ice cream sandwiches have chocolate wafers and vanilla filling.</**string**>  
 <**string name="droid\_desserts"**>Droid Desserts</**string**>  
 <**string name="donut\_order\_message"**>You ordered a donut.</**string**>  
 <**string name="ice\_cream\_order\_message"**>You ordered an ice cream sandwich.</**string**>  
 <**string name="froyo\_order\_message"**>You ordered a FroYo.</**string**>  
 <**string name="enter\_name\_hint"**>enter name...</**string**>  
 <**string name="pick\_up"**>pick\_up</**string**>  
 <**string name="next\_day\_ground\_delivery"**>next day ground delivery</**string**>  
 <**string name="same\_day\_messenger\_service"**>same day messenger service</**string**>  
 <**string name="choose\_delivery\_method"**>choose delivery method</**string**>  
 <**string name="enter\_note\_hint"**>enter note...</**string**>  
 <**string name="note\_label\_text"**>note\_label\_text</**string**>  
 <**string name="enter\_phone\_hint"**>enter phone...</**string**>  
 <**string name="phone\_label\_string"**>phone\_label\_string</**string**>  
 <**string name="enter\_address\_hint"**>enter address...</**string**>  
 <**string name="address\_label\_text"**>address\_label\_text</**string**>  
 <**string name="action\_order\_message"**>Order.</**string**>  
 <**string name="action\_status\_message"**>Status.</**string**>  
 <**string name="action\_favorites\_message"**>Favorites.</**string**>  
 <**string name="action\_contact\_message"**>Contact.</**string**>  
 <**string-array name="labels\_array"**>  
 <**item**>Home</**item**>  
 <**item**>Work</**item**>  
 <**item**>Mobile</**item**>  
 <**item**>Other</**item**>  
 </**string-array**>  
  
</**resources**>

**Output:**

**Practical No: 9**

**Aim: Create an android app to Connect to the Internet and use BroadcastReceiver.**

**Activity\_main.xml**

<?xml version="1.0" encoding="utf-8"?>

<android.support.constraint.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">

<Button

android:id = "@+id/sendBroadcast"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Send Custom Broadcast"

android:onClick="sendCustomBroadcast"

app:layout\_constraintBottom\_toBottomOf="parent"

app:layout\_constraintLeft\_toLeftOf="parent"

app:layout\_constraintRight\_toRightOf="parent"

app:layout\_constraintTop\_toTopOf="parent" />

</android.support.constraint.ConstraintLayout>

**Mainactivity.java**

package com.example.powerreciever;

import android.content.Intent;

import android.content.IntentFilter;

import android.support.v4.content.LocalBroadcastManager;

import android.support.v7.app.AppCompatActivity;

import android.os.Bundle;

import android.view.View;

public class MainActivity extends AppCompatActivity {

private MyReceiver mReceiver = new MyReceiver();

private static final String ACTION\_CUSTOM\_BROADCAST =

BuildConfig.APPLICATION\_ID + ".ACTION\_CUSTOM\_BROADCAST";

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

IntentFilter filter = new IntentFilter();

filter.addAction(Intent.ACTION\_POWER\_DISCONNECTED);

filter.addAction(Intent.ACTION\_POWER\_CONNECTED);

this.registerReceiver(mReceiver, filter);

LocalBroadcastManager.getInstance(this)

.registerReceiver(mReceiver,

new IntentFilter(ACTION\_CUSTOM\_BROADCAST));

}

protected void onDestroy() {

//Unregister the receiver

this.unregisterReceiver(mReceiver);

super.onDestroy();

LocalBroadcastManager.getInstance(this)

.unregisterReceiver(mReceiver);

}

public void sendCustomBroadcast(View view) {

Intent customBroadcastIntent = new Intent(ACTION\_CUSTOM\_BROADCAST);

LocalBroadcastManager.getInstance(this).sendBroadcast(customBroadcastIntent);

}}

**MyReceiver.java**

package com.example.powerreciever;

import android.content.BroadcastReceiver;

import android.content.Context;

import android.content.Intent;

import android.widget.Toast;

public class MyReceiver extends BroadcastReceiver {

private static final String ACTION\_CUSTOM\_BROADCAST =

BuildConfig.APPLICATION\_ID + ".ACTION\_CUSTOM\_BROADCAST";

public void onReceive(Context context, Intent intent) {

String intentAction = intent.getAction();

if (intentAction != null) {

String toastMessage = "unknown intent action";

switch (intentAction){

case Intent.ACTION\_POWER\_CONNECTED:

toastMessage = "Power connected!";

break;

case Intent.ACTION\_POWER\_DISCONNECTED:

toastMessage = "Power disconnected!";

break;

case ACTION\_CUSTOM\_BROADCAST:

toastMessage = "Custom Broadcast Received";

break;

}

Toast.makeText(context, toastMessage, Toast.LENGTH\_SHORT).show()

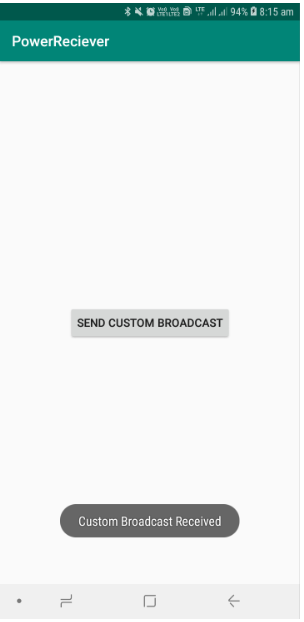
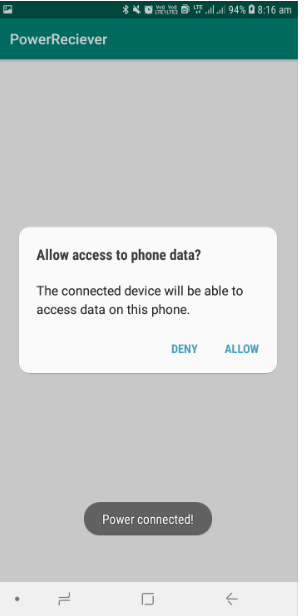
//Display the toast.

}

}

}

Output:





**Practical No: 10**

**Aim: Create an android app to show Notifications and Alarm manager.**

**Practical 10-A**

**Notify me**

**MainActivity.java**

package com.example.notifyme;  
  
import android.app.NotificationChannel;  
import android.app.NotificationManager;  
import android.app.PendingIntent;  
import android.content.Intent;  
import android.graphics.Color;  
import android.support.v4.app.NotificationCompat;  
import android.support.v7.app.AppCompatActivity;  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
  
public class MainActivity extends AppCompatActivity {  
  
 private Button button\_notify;  
 private static final String PRIMARY\_CHANNEL\_ID = "primary\_notification\_channel";  
 private NotificationManager mNotifyManager;  
 private static final int NOTIFICATION\_ID = 0;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.activity\_main);  
  
 button\_notify = findViewById(R.id.notify);  
 button\_notify.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 sendNotification();  
 }  
 });  
 createNotificationChannel();  
 }  
 public void sendNotification() {  
  
 NotificationCompat.Builder notifyBuilder = getNotificationBuilder();  
 mNotifyManager.notify(NOTIFICATION\_ID, notifyBuilder.build());  
 }  
  
 public void createNotificationChannel()  
 {  
 mNotifyManager = (NotificationManager)  
 getSystemService(NOTIFICATION\_SERVICE);  
 getSystemService(NOTIFICATION\_SERVICE);  
 if (android.os.Build.VERSION.SDK\_INT >=  
 android.os.Build.VERSION\_CODES.O) {  
 // Create a NotificationChannel  
 NotificationChannel notificationChannel = new NotificationChannel(PRIMARY\_CHANNEL\_ID,  
 "Mascot Notification", NotificationManager  
 .IMPORTANCE\_HIGH);  
  
 notificationChannel.enableLights(true);  
 notificationChannel.setLightColor(Color.RED);  
 notificationChannel.enableVibration(true);  
 notificationChannel.setDescription("Notification from Mascot");  
 mNotifyManager.createNotificationChannel(notificationChannel);  
  
  
 }  
 }  
 private NotificationCompat.Builder getNotificationBuilder(){  
 Intent notificationIntent = new Intent(this, MainActivity.class);  
 PendingIntent notificationPendingIntent = PendingIntent.getActivity(this,  
 NOTIFICATION\_ID, notificationIntent, PendingIntent.FLAG\_UPDATE\_CURRENT);  
  
 NotificationCompat.Builder notifyBuilder = new NotificationCompat.Builder(this, PRIMARY\_CHANNEL\_ID)  
 .setContentTitle("You've been notified!")  
 .setContentText("This is your notification text.")  
 .setContentIntent(notificationPendingIntent)  
 .setAutoCancel(true)  
 .setSmallIcon(R.drawable.ic\_android);  
 return notifyBuilder;  
 }  
}

activity\_main.xml

<?xml version="1.0" encoding="utf-8"?>  
<android.support.constraint.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">  
  
  
 <Button  
 android:id="@+id/notify"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Notify Me!"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintLeft\_toLeftOf="parent"  
 app:layout\_constraintRight\_toRightOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent" />  
  
</android.support.constraint.ConstraintLayout>

Output:



**B)ALARM MANAGER:**

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

<?xml version="1.0" encoding="utf-8"?>  
<android.support.constraint.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:orientation="vertical"  
 android:layout\_height="match\_parent"  
 tools:context=".MainActivity">  
  
 <ToggleButton  
 android:id="@+id/alarm\_Toggle"  
 android:layout\_width="match\_parent"  
 android:layout\_height="100dp"  
 android:gravity="center"  
 android:textOff="Alarm Off"  
 android:textOn="Alarm On"  
 android:textStyle="bold"  
 android:textSize="30dp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent" />  
</android.support.constraint.ConstraintLayout>

**\*MainActivity.java\*:**

package com.example.alarm\_manager;  
  
import android.app.AlarmManager;  
import android.app.NotificationChannel;  
import android.app.NotificationManager;  
import android.app.PendingIntent;  
import android.content.Context;  
import android.content.Intent;  
import android.graphics.Color;  
import android.os.SystemClock;  
import android.support.v4.app.NotificationCompat;  
import android.support.v7.app.AppCompatActivity;  
import android.os.Bundle;  
import android.widget.CompoundButton;  
import android.widget.Toast;  
import android.widget.ToggleButton;  
  
public class MainActivity<isChecked> extends AppCompatActivity {  
 private NotificationManager mNotificationManager;  
 private static final int NOTIFICATION\_ID = 0;  
 private static final String PRIMARY\_CHANNEL\_ID =  
 "primary\_notification\_channel";  
   
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.activity\_main);  
 ToggleButton alarmToggle = findViewById(R.id.alarm\_Toggle);  
  
 alarmToggle.setOnCheckedChangeListener(  
 new CompoundButton.OnCheckedChangeListener() {  
 @Override  
 public void onCheckedChanged(CompoundButton compoundButton,  
 boolean isChecked) {  
 String toastMessage;  
 if(isChecked){  
 //Set the toast message for the "on" case.  
 deliverNotification(MainActivity.this);  
 toastMessage = "Stand Up Alarm On!";  
 } else {  
 //Set the toast message for the "off" case.  
 mNotificationManager.cancelAll();  
 toastMessage = "Stand Up Alarm Off!";  
 }  
  
 //Show a toast to say the alarm is turned on or off.  
 Toast.makeText(MainActivity.this, toastMessage,Toast.LENGTH\_SHORT)  
 .show();  
 }  
 });  
  
 mNotificationManager = (NotificationManager)  
 getSystemService(NOTIFICATION\_SERVICE);  
  
 createNotificationChannel();  
  
 }  
  
 public void createNotificationChannel() {  
  
 // Create a notification manager object.  
 mNotificationManager =  
 (NotificationManager) getSystemService(NOTIFICATION\_SERVICE);  
  
 // Notification channels are only available in OREO and higher.  
 // So, add a check on SDK version.  
 if (android.os.Build.VERSION.SDK\_INT >=  
 android.os.Build.VERSION\_CODES.O) {  
  
 // Create the NotificationChannel with all the parameters.  
 NotificationChannel notificationChannel = new NotificationChannel  
 (PRIMARY\_CHANNEL\_ID,  
 "Stand up notification",  
 NotificationManager.IMPORTANCE\_HIGH);  
  
 notificationChannel.enableLights(true);  
 notificationChannel.setLightColor(Color.RED);  
 notificationChannel.enableVibration(true);  
 notificationChannel.setDescription  
 ("Notifies every 15 minutes to stand up and walk");  
 mNotificationManager.createNotificationChannel(notificationChannel);  
 }  
 }  
  
 private void deliverNotification(Context context) {  
 Intent contentIntent = new Intent(context, MainActivity.class);  
 PendingIntent contentPendingIntent = PendingIntent.getActivity  
 (context, NOTIFICATION\_ID, contentIntent, PendingIntent.FLAG\_UPDATE\_CURRENT);  
 NotificationCompat.Builder builder = new NotificationCompat.Builder(context, PRIMARY\_CHANNEL\_ID)  
 .setSmallIcon(R.mipmap.ic\_stand\_up)  
 .setContentTitle("Stand Up Alert")  
 .setContentText("You should stand up and walk around now!")  
 .setContentIntent(contentPendingIntent)  
 .setPriority(NotificationCompat.PRIORITY\_HIGH)  
 .setAutoCancel(true)  
 .setDefaults(NotificationCompat.DEFAULT\_ALL);  
  
 mNotificationManager.notify(NOTIFICATION\_ID, builder.build());  
 }  
}

**Output:**

