**11 Develop program to show five checkboxes and toast selected checkboxes.**

**XML Code**

<?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:padding="20dp"  
 android:gravity="center">  
  
 <TextView  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Select your interests"  
 android:textSize="18sp"  
 android:layout\_marginBottom="20dp"/>  
  
 <CheckBox  
 android:id="@+id/checkbox1"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Sports"  
 android:layout\_marginBottom="10dp"/>  
  
 <CheckBox  
 android:id="@+id/checkbox2"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Music"  
 android:layout\_marginBottom="10dp"/>  
  
 <CheckBox  
 android:id="@+id/checkbox3"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Reading"  
 android:layout\_marginBottom="10dp"/>  
  
 <CheckBox  
 android:id="@+id/checkbox4"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Traveling"  
 android:layout\_marginBottom="10dp"/>  
  
 <CheckBox  
 android:id="@+id/checkbox5"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Gaming"  
 android:layout\_marginBottom="20dp"/>  
  
 <Button  
 android:id="@+id/showSelectedButton"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Show Selected"  
 android:layout\_marginTop="20dp"/>  
</LinearLayout>

**Java code**

package com.example.pr11\_checkbox;  
  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
import android.widget.CheckBox;  
import android.widget.Toast;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
public class MainActivity extends AppCompatActivity {  
  
 // Declare Checkboxes and Button  
 CheckBox checkbox1, checkbox2, checkbox3, checkbox4, checkbox5;  
 Button showSelectedButton;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 // Initialize Checkboxes and Button  
 checkbox1 = findViewById(R.id.*checkbox1*);  
 checkbox2 = findViewById(R.id.*checkbox2*);  
 checkbox3 = findViewById(R.id.*checkbox3*);  
 checkbox4 = findViewById(R.id.*checkbox4*);  
 checkbox5 = findViewById(R.id.*checkbox5*);  
 showSelectedButton = findViewById(R.id.*showSelectedButton*);  
  
 // Set OnClickListener for Button  
 showSelectedButton.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 // Collect selected checkboxes  
 StringBuilder selectedOptions = new StringBuilder("Selected Interests: ");  
  
 if (checkbox1.isChecked()) {  
 selectedOptions.append(checkbox1.getText().toString()).append(", ");  
 }  
 if (checkbox2.isChecked()) {  
 selectedOptions.append(checkbox2.getText().toString()).append(", ");  
 }  
 if (checkbox3.isChecked()) {  
 selectedOptions.append(checkbox3.getText().toString()).append(", ");  
 }  
 if (checkbox4.isChecked()) {  
 selectedOptions.append(checkbox4.getText().toString()).append(", ");  
 }  
 if (checkbox5.isChecked()) {  
 selectedOptions.append(checkbox5.getText().toString()).append(", ");  
 }  
  
 // Check if any options are selected  
 if (selectedOptions.length() > 19) { // length=19 means "Selected Interests: " is included  
 selectedOptions.setLength(selectedOptions.length() - 2); // Remove the last comma and space  
 Toast.*makeText*(MainActivity.this, selectedOptions.toString(), Toast.*LENGTH\_LONG*).show();  
 } else {  
 Toast.*makeText*(MainActivity.this, "No interests selected", Toast.*LENGTH\_SHORT*).show();  
 }  
 }  
 });  
 }  
}

**12 Develop program to show a QUIZ Question with 4 options on using Radio Button. On the correct answer selection show toast.**

**XML Code**

<?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:padding="20dp"  
 android:gravity="center">  
  
 <!-- Question 1 -->  
 <TextView  
 android:id="@+id/question1"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Q: Which of the following is a popular Object-Oriented programming language?"  
 android:textSize="18sp"  
 android:layout\_marginBottom="20dp"  
 android:gravity="center"/>  
  
 <RadioGroup  
 android:id="@+id/optionsGroup1"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:orientation="vertical"  
 android:layout\_marginBottom="30dp">  
  
 <RadioButton  
 android:id="@+id/optionA1"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="C" />  
  
 <RadioButton  
 android:id="@+id/optionB1"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Java" />  
  
 <RadioButton  
 android:id="@+id/optionC1"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="HTML" />  
  
 <RadioButton  
 android:id="@+id/optionD1"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="CSS" />  
 </RadioGroup>  
  
 <Button  
 android:id="@+id/checkAnswerButton"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Check Answer" />  
  
</LinearLayout>

**Java Code**

package com.example.pr12\_quiz\_ratiobutton;  
  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
import android.widget.RadioButton;  
import android.widget.RadioGroup;  
import android.widget.Toast;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
public class MainActivity extends AppCompatActivity {  
  
 private RadioGroup optionsGroup1;  
 private Button checkAnswerButton;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 optionsGroup1 = findViewById(R.id.*optionsGroup1*);  
 checkAnswerButton = findViewById(R.id.*checkAnswerButton*);  
  
 checkAnswerButton.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 int selectedOptionId = optionsGroup1.getCheckedRadioButtonId();  
  
 if (selectedOptionId != -1) {  
 RadioButton selectedOption = findViewById(selectedOptionId);  
  
 if (selectedOption.getText().equals("Java")) {  
 // Correct answer  
 Toast.*makeText*(MainActivity.this, "Correct! Java is an Object-Oriented language.", Toast.*LENGTH\_SHORT*).show();  
 } else {  
 // Incorrect answer  
 Toast.*makeText*(MainActivity.this, "Incorrect! The correct answer is Java.", Toast.*LENGTH\_SHORT*).show();  
 }  
 } else {  
 // No option selected  
 Toast.*makeText*(MainActivity.this, "Please select an option", Toast.*LENGTH\_SHORT*).show();  
 }  
 }  
 });  
 }  
}

**13 Develop a program to implement Progress Bar.**

**XML Code**

<?xml version="1.0" encoding="utf-8"?>  
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 android:id="@+id/main"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:orientation="vertical"  
 android:gravity="center"  
 android:padding="20dp">  
  
 <!-- TextView for Progress Dialog title -->  
 <TextView  
 android:id="@+id/textView"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:gravity="center"  
 android:text="ProgressDialog"  
 android:textSize="24sp"  
 android:layout\_marginBottom="30dp"/>  
  
 <!-- Button to trigger progress bar -->  
 <Button  
 android:id="@+id/button"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Start Download"  
 android:layout\_marginTop="20dp"  
 android:layout\_marginBottom="30dp"/>  
  
</LinearLayout>

**Java Code**

package com.example.pr13\_progressbar;  
  
import android.os.Bundle;  
import android.os.Handler;  
import android.view.View;  
import android.widget.Button;  
import android.widget.ProgressBar;  
import android.widget.Toast;  
  
import androidx.appcompat.app.AlertDialog;  
import androidx.appcompat.app.AppCompatActivity;  
  
public class MainActivity extends AppCompatActivity implements View.OnClickListener {  
  
 Button btn;  
 ProgressBar progressBar;  
 int counter = 0;  
 int max = 100;  
 Handler handler = new Handler();  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 btn = findViewById(R.id.*button*);  
 btn.setOnClickListener(this);  
 }  
  
 @Override  
 public void onClick(View v) {  
 // Show progress bar in an AlertDialog  
 AlertDialog.Builder builder = new AlertDialog.Builder(MainActivity.this);  
 builder.setTitle("Android Developers");  
 builder.setMessage("Downloading File...");  
  
 // Create a custom progress bar  
 ProgressBar progressBar = new ProgressBar(MainActivity.this);  
 progressBar.setIndeterminate(false);  
 progressBar.setMax(max);  
 builder.setView(progressBar);  
 AlertDialog dialog = builder.create();  
 dialog.show();  
  
 // Simulate a downloading task  
 new Thread(new Runnable() {  
 @Override  
 public void run() {  
 while (counter < max) {  
 counter++;  
  
 // Update the progress bar on the UI thread  
 handler.post(new Runnable() {  
 @Override  
 public void run() {  
 progressBar.setProgress(counter);  
 }  
 });  
  
 try {  
 Thread.*sleep*(100); // Simulate a delay (for demo purposes)  
 } catch (InterruptedException e) {  
 e.printStackTrace();  
 }  
 }  
  
 // Dismiss dialog when download is complete  
 handler.post(new Runnable() {  
 @Override  
 public void run() {  
 dialog.dismiss();  
 Toast.*makeText*(MainActivity.this, "Download Complete!", Toast.*LENGTH\_SHORT*).show();  
 }  
 });  
 }  
 }).start();  
 }  
}

**14 Develop a program to implement Custom Toast Alert.**

**custom\_toast.xml**

<?xml version="1.0" encoding="utf-8"?>  
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:orientation="horizontal"  
 android:id="@+id/toast"  
 android:gravity="center\_vertical"  
 android:padding="10dp">  
  
 <!-- Image/Icon (optional) -->  
 <ImageView  
 android:id="@+id/toastImageView"  
 android:layout\_width="33dp"  
 android:layout\_height="31dp"  
 android:layout\_marginEnd="10dp"  
 android:src="@drawable/img" />  
  
 <!-- Text View for the toast message -->  
 <TextView  
 android:id="@+id/toastTextView"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:textColor="#FFF"  
 android:textSize="16sp" />  
  
</LinearLayout>

**XML Code**

<?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="20dp">  
  
 <!-- Button for Simple Toast -->  
 <Button  
 android:id="@+id/simpleToast"  
 android:layout\_width="200dp"  
 android:layout\_height="wrap\_content"  
 android:background="#f00"  
 android:text="Simple Toast"  
 android:textColor="#fff"  
 android:textSize="20sp" />  
  
 <!-- Button for Custom Toast -->  
 <Button  
 android:id="@+id/customToast"  
 android:layout\_width="200dp"  
 android:layout\_height="wrap\_content"  
 android:background="#0f0"  
 android:text="Custom Toast"  
 android:textColor="#fff"  
 android:textSize="20sp"  
 android:layout\_marginTop="50dp" />  
  
</LinearLayout>

**Java Code**

package com.example.pr14\_customtoast;  
  
import androidx.appcompat.app.AppCompatActivity;  
import android.os.Bundle;  
import android.view.Gravity;  
import android.view.LayoutInflater;  
import android.view.View;  
import android.view.ViewGroup;  
import android.widget.Button;  
import android.widget.ImageView;  
import android.widget.TextView;  
import android.widget.Toast;  
  
public class MainActivity extends AppCompatActivity {  
 Button simpleToast, customToast;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 simpleToast = findViewById(R.id.*simpleToast*);  
 customToast = findViewById(R.id.*customToast*);  
  
 // Simple Toast Button Click  
 simpleToast.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 Toast toast = Toast.*makeText*(getApplicationContext(),  
 "Simple Toast In Android", Toast.*LENGTH\_LONG*); // Create a simple Toast  
 toast.setGravity(Gravity.*BOTTOM* | Gravity.*CENTER\_HORIZONTAL*, 0, 0); // Set gravity  
 toast.show();  
 }  
 });  
  
 // Custom Toast Button Click  
 customToast.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 // Inflate the custom toast layout  
 LayoutInflater inflater = getLayoutInflater();  
 View layout = inflater.inflate(R.layout.*custom\_toast*, (ViewGroup) findViewById(R.id.*toast*)); // Get the custom layout  
  
 // Get the references of TextView and ImageView  
 TextView toastTextView = layout.findViewById(R.id.*toastTextView*);  
 ImageView toastImageView = layout.findViewById(R.id.*toastImageView*);  
  
 // Set text and icon for the custom toast  
 toastTextView.setText("Custom Toast In Android");  
 toastImageView.setImageResource(R.drawable.*ic\_launcher\_background*); // Set image resource  
  
 // Create a new Toast object and set the custom view  
 Toast toast = new Toast(getApplicationContext());  
 toast.setDuration(Toast.*LENGTH\_LONG*); // Set duration  
 toast.setView(layout); // Set the custom layout  
 toast.show(); // Display the custom toast  
 }  
 });  
 }  
}

**15 Develop a program to implement Time Picker & Date Picker.**

**XML Code**

<?xml version="1.0" encoding="utf-8"?>  
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:id="@+id/mainLayout"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:orientation="vertical"  
 android:padding="24dp"  
 android:gravity="center"  
 tools:context=".MainActivity">  
  
 <TextView  
 android:id="@+id/dateTextView"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Selected Date: "  
 android:textSize="18sp"  
 android:layout\_marginBottom="20dp"/>  
  
 <Button  
 android:id="@+id/dateButton"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Pick Date" />  
  
 <TextView  
 android:id="@+id/timeTextView"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Selected Time: "  
 android:textSize="18sp"  
 android:layout\_marginTop="40dp"  
 android:layout\_marginBottom="20dp"/>  
  
 <Button  
 android:id="@+id/timeButton"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Pick Time" />  
  
</LinearLayout>

**Java Code**

package com.example.pr15\_time\_date\_picker;  
  
import android.app.DatePickerDialog;  
import android.app.TimePickerDialog;  
import android.os.Bundle;  
import android.widget.Button;  
import android.widget.TextView;  
import android.widget.TimePicker;  
import android.widget.DatePicker;  
import androidx.appcompat.app.AppCompatActivity;  
import java.util.Calendar;  
  
public class MainActivity extends AppCompatActivity {  
  
 TextView dateTextView, timeTextView;  
 Button dateButton, timeButton;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 // Initialize views  
 dateTextView = findViewById(R.id.*dateTextView*);  
 timeTextView = findViewById(R.id.*timeTextView*);  
 dateButton = findViewById(R.id.*dateButton*);  
 timeButton = findViewById(R.id.*timeButton*);  
  
 // Get current date and time  
 Calendar calendar = Calendar.*getInstance*();  
  
 // Date Picker Dialog  
 dateButton.setOnClickListener(view -> {  
 int year = calendar.get(Calendar.*YEAR*);  
 int month = calendar.get(Calendar.*MONTH*);  
 int day = calendar.get(Calendar.*DAY\_OF\_MONTH*);  
  
 DatePickerDialog datePickerDialog = new DatePickerDialog(MainActivity.this,  
 (view1, year1, month1, dayOfMonth) -> {  
 String selectedDate = dayOfMonth + "/" + (month1 + 1) + "/" + year1;  
 dateTextView.setText("Selected Date: " + selectedDate);  
 }, year, month, day);  
 datePickerDialog.show();  
 });  
  
 // Time Picker Dialog  
 timeButton.setOnClickListener(view -> {  
 int hour = calendar.get(Calendar.*HOUR\_OF\_DAY*);  
 int minute = calendar.get(Calendar.*MINUTE*);  
  
 TimePickerDialog timePickerDialog = new TimePickerDialog(MainActivity.this,  
 (view12, hourOfDay, minute1) -> {  
 String selectedTime = String.*format*("%02d:%02d", hourOfDay, minute1);  
 timeTextView.setText("Selected Time: " + selectedTime);  
 }, hour, minute, true);  
 timePickerDialog.show();  
 });  
 }  
}

**16 Write a program to create a text field and a button “Navigate”. When you enter “www.google.com” and press navigate button it should open google page..**

**XML Code**

<?xml version="1.0" encoding="utf-8"?>  
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:id="@+id/layout"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:orientation="vertical"  
 android:padding="24dp"  
 android:gravity="center"  
 tools:context=".MainActivity">  
  
 <EditText  
 android:id="@+id/urlEditText"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:hint="Enter website (e.g. www.google.com)"  
 android:inputType="textUri"  
 android:layout\_marginBottom="20dp" />  
  
 <Button  
 android:id="@+id/navigateButton"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Navigate" />  
  
</LinearLayout>

**Java Code**

package com.example.pr16\_navigate\_opengoogle;  
  
import androidx.appcompat.app.AppCompatActivity;  
import android.content.Intent;  
import android.net.Uri;  
import android.os.Bundle;  
import android.widget.Button;  
import android.widget.EditText;  
import android.widget.Toast;  
  
public class MainActivity extends AppCompatActivity {  
  
 EditText urlEditText;  
 Button navigateButton;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 urlEditText = findViewById(R.id.*urlEditText*);  
 navigateButton = findViewById(R.id.*navigateButton*);  
  
 navigateButton.setOnClickListener(v -> {  
 String url = urlEditText.getText().toString().trim();  
  
 if (!url.isEmpty()) {  
 if (!url.startsWith("http://") && !url.startsWith("https://")) {  
 url = "http://" + url; // Add default scheme if missing  
 }  
  
 Intent intent = new Intent(Intent.*ACTION\_VIEW*, Uri.*parse*(url));  
 startActivity(intent);  
 } else {  
 Toast.*makeText*(MainActivity.this, "Please enter a URL", Toast.*LENGTH\_SHORT*).show();  
 }  
 });  
 }  
}

**17 Write a program to create button “Start Dialer”. When u click on this button it should open the phone dialer**

**XML Code**

<?xml version="1.0" encoding="utf-8"?>  
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:id="@+id/layout"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:orientation="vertical"  
 android:gravity="center"  
 android:padding="24dp"  
 tools:context=".MainActivity">  
  
 <Button  
 android:id="@+id/dialerButton"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Start Dialer" />  
</LinearLayout>

**Java Code**

package com.example.pr17\_startdialer;  
  
import androidx.appcompat.app.AppCompatActivity;  
import android.content.Intent;  
import android.net.Uri;  
import android.os.Bundle;  
import android.widget.Button;  
  
public class MainActivity extends AppCompatActivity {  
  
 Button dialerButton;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 dialerButton = findViewById(R.id.*dialerButton*);  
  
 dialerButton.setOnClickListener(v -> {  
 Intent intent = new Intent(Intent.*ACTION\_DIAL*);  
 intent.setData(Uri.*parse*("tel:")); // Blank number (opens dialer without number)  
 startActivity(intent);  
 });  
 }  
}

**20 Develop a program to implement light sensors.**

**XML Code**

<?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"  
 android:background="#ffffff">  
  
 <TextView  
 android:id="@+id/lightTextView"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Current Light Level: "  
 android:textSize="24sp"  
 android:textColor="#000000" />  
</LinearLayout>

**Java Code**

package com.example.pr20\_light\_sensor;  
  
import androidx.appcompat.app.AppCompatActivity;  
import android.hardware.Sensor;  
import android.hardware.SensorEvent;  
import android.hardware.SensorEventListener;  
import android.hardware.SensorManager;  
import android.os.Bundle;  
import android.widget.TextView;  
  
public class MainActivity extends AppCompatActivity {  
  
 SensorManager sensorManager;  
 Sensor lightSensor;  
 SensorEventListener lightEventListener;  
 TextView lightValue;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 lightValue = findViewById(R.id.*lightTextView*);  
  
 sensorManager = (SensorManager) getSystemService(*SENSOR\_SERVICE*);  
 lightSensor = sensorManager.getDefaultSensor(Sensor.*TYPE\_LIGHT*);  
  
 if (lightSensor == null) {  
 lightValue.setText("Light Sensor not available");  
 return;  
 }  
  
 lightEventListener = new SensorEventListener() {  
 @Override  
 public void onSensorChanged(SensorEvent event) {  
 float light = event.values[0];  
 lightValue.setText("Current Light Level: " + light + " lx");  
 }  
  
 @Override  
 public void onAccuracyChanged(Sensor sensor, int accuracy) {  
 // Not used  
 }  
 };  
 }  
  
 @Override  
 protected void onResume() {  
 super.onResume();  
 sensorManager.registerListener(lightEventListener, lightSensor, SensorManager.*SENSOR\_DELAY\_NORMAL*);  
 }  
  
 @Override  
 protected void onPause() {  
 super.onPause();  
 sensorManager.unregisterListener(lightEventListener);  
 }  
}