**Qu2. Explicit Intent:**

**In java file**

button.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 Intent intent=new Intent(MainActivity.this,MainActivity2.class);  
 startActivity(intent);  
 //Toast.makeText(MainActivity.this, "Welcome to new Acctivity ", Toast.LENGTH\_SHORT).show();  
 }  
});

**Qu.3 Implicit intent:**

<Button  
 android:text="Button"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content" android:id="@+id/button2"  
 android:onClick="show"  
/>

**In java file**

public void show(View view){  
 Intent intent=new Intent(Intent.*ACTION\_VIEW*,Uri.*parse*("https://accounts.google.com/b/0/AddMailService"));  
 startActivity(intent);  
}

**Qu.6 AsyncTask : reference()**

Activity\_main.xml:

<?xml version="1.0" encoding="utf-8"?>  
<RelativeLayout  
 xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:tools="http://schemas.android.com/tools"  
 xmlns:app="http://schemas.android.com/apk/res-auto"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".MainActivity">  
  
  
 <TextView  
 android:text="Enter time in sec"  
  
 android:layout\_marginTop="20dp"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:id="@+id/textView1"  
  
 />  
 <EditText  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:inputType="textPersonName"  
 android:text="Name"  
 android:ems="10"  
 android:layout\_marginLeft="140dp"  
 android:id="@+id/editText1"  
  
  
 />  
 <Button  
 android:text="Button"  
 android:layout\_marginTop="90dp"  
 android:layout\_marginLeft="150dp"  
 android:gravity="center"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:id="@+id/button1"/>  
   
</RelativeLayout>

MainActiviy.java

package com.example.asynctask;  
  
import android.app.ProgressDialog;  
import android.os.AsyncTask;  
import android.view.View;  
import android.widget.Button;  
import android.widget.EditText;  
import android.widget.TextView;  
import androidx.appcompat.app.AppCompatActivity;  
import android.os.Bundle;  
  
public class MainActivity extends AppCompatActivity {  
 Button b1;  
 EditText e1;  
 TextView v1;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 b1=findViewById(R.id.*button1*);  
 e1=findViewById(R.id.*editText1*);  
   
 b1.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 AsynckTaskRunner runner=new AsynckTaskRunner();  
 String sleeptime= e1.getText().toString();  
 runner.execute(sleeptime);  
 }  
 });  
  
  
}  
  
 private class AsynckTaskRunner extends AsyncTask<String, String, String> {  
 ProgressDialog pr;  
 @Override  
 protected String doInBackground(String... strings) {  
 publishProgress("slepping ...");  
 int time=Integer.*parseInt*(strings[0])\*1000;  
 try {  
 Thread.*sleep*(time);  
 } catch (InterruptedException e) {  
 throw new RuntimeException(e);  
 }  
 return null;  
 }  
  
 @Override  
 protected void onPreExecute() {  
 pr=ProgressDialog.*show*(MainActivity.this,"Title","sleeping for time"+e1.getText().toString());  
 super.onPreExecute();  
 }  
  
 @Override  
 protected void onPostExecute(String s) {  
 pr.dismiss();  
 super.onPostExecute(s);  
 }  
  
 @Override  
 protected void onProgressUpdate(String... values) {  
  
 super.onProgressUpdate(values);  
 }  
   
 }  
  
}

Qu.7 Broadcast (reference: <https://chat.openai.com/share/bf355939-b5ce-47ba-8e00-3de7bd927248> last code)

Activity\_main.xml

<?xml version="1.0" encoding="utf-8"?>  
<androidx.constraintlayout.widget.ConstraintLayout  
 xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:tools="http://schemas.android.com/tools"  
 xmlns:app="http://schemas.android.com/apk/res-auto"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".MainActivity">  
 <TextView  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Hello World!"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"/>  
 <Button  
 android:text="Button"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content" android:id="@+id/button" tools:layout\_editor\_absoluteY="183dp"  
 tools:layout\_editor\_absoluteX="71dp"/>  
  
</androidx.constraintlayout.widget.ConstraintLayout>

MainActivity.java

package com.example.broadcast;  
  
import android.app.SearchManager;  
import android.telephony.SmsManager;  
import androidx.appcompat.app.AppCompatActivity;  
import android.os.Bundle;  
  
public class MainActivity extends AppCompatActivity {  
  
 String phonenumber="8485852776";  
 String message="Hi this is pratiksha ";  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 sendsms();  
 }  
 public void sendsms(){  
 SmsManager smsmanager=SmsManager.*getDefault*();  
 smsmanager.sendTextMessage(phonenumber,null,message,null,null);  
 }  
}

AndroidManifest.xml

<?xml version="1.0" encoding="utf-8"?>  
<manifest xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:tools="http://schemas.android.com/tools">  
<uses-permission android:name="android.permission.SEND\_SMS"></uses-permission>  
 <uses-permission android:name="android.permission.ACCESS\_NETWORK\_STATE"></uses-permission>  
 <uses-permission android:name="android.permission.READ\_SMS"></uses-permission>  
 <application  
 android:allowBackup="true"  
 android:dataExtractionRules="@xml/data\_extraction\_rules"  
 android:fullBackupContent="@xml/backup\_rules"  
 android:icon="@mipmap/ic\_launcher"  
 android:label="@string/app\_name"  
 android:supportsRtl="true"  
 android:theme="@style/Theme.BroadCast"  
 tools:targetApi="31">  
 <activity  
 android:name=".MainActivity"  
 android:exported="true">  
 <intent-filter>  
 <action android:name="android.intent.action.MAIN"/>  
  
 <category android:name="android.intent.category.LAUNCHER"/>  
 </intent-filter>  
 </activity>  
 <receiver android:name=".SmsReciver">  
 <intent-filter>  
 <action android:name="android.provider.Telephony.SMS\_RECEIVED"/>  
 </intent-filter>  
 </receiver>  
  
 </application>  
  
</manifest>

SmsReciver.java

package com.example.broadcast;  
  
import android.content.BroadcastReceiver;  
import android.content.Context;  
import android.content.Intent;  
  
public class SmsReciver extends BroadcastReceiver {  
  
 @Override  
 public void onReceive(Context context, Intent intent) {  
  
 }  
}

Qu.8 Shared Preference (Done by shraddha )

MainActivity.java

package com.example.sharedpreference;  
  
import android.annotation.SuppressLint;  
import android.content.Intent;  
import android.content.SharedPreferences;  
import android.widget.EditText;  
import androidx.appcompat.app.AppCompatActivity;  
import android.os.Bundle;  
  
public class MainActivity extends AppCompatActivity {  
 EditText name,age;  
 @SuppressLint("MissingInflatedId")  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 name=findViewById(R.id.*edit1*);  
 age=findViewById(R.id.*edit2*);  
  
  
 }  
  
 @Override  
 protected void onPause() {  
 super.onPause();  
 SharedPreferences sp=getSharedPreferences("Myfiledata",*MODE\_PRIVATE*);  
 SharedPreferences.Editor editor=sp.edit();  
 editor.putString("name",name.getText().toString());  
 editor.putInt("age",Integer.*parseInt*(age.getText().toString()));  
 editor.apply();  
 }  
  
  
  
 @Override  
 protected void onResume() {  
 super.onResume();  
 SharedPreferences sp=getSharedPreferences("Myfiledata",*MODE\_PRIVATE*);  
 String name1=sp.getString("name","");  
 int age1=sp.getInt("age",0);  
 name.setText(name1);  
 age.setText(String.*valueOf*(age1));  
 }  
}

activity\_main.xml

<?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:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".MainActivity"  
 tools:ignore="HardcodedText"  
android:orientation="vertical">  
  
 <TextView  
 android:text="Shared Preferences"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:id="@+id/textView"/>  
 <EditText  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:inputType="textPersonName"  
 android:text="Name"  
 android:ems="10"  
 android:id="@+id/edit1"/>  
 <EditText  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:inputType="textPersonName"  
 android:text="Age"  
 android:ems="10"  
 android:id="@+id/edit2"/>  
</LinearLayout>

**Notification:**

**MainActivity.java**

package com.example.notification;  
  
import android.app.Notification;  
  
import android.app.NotificationManager;  
import android.app.PendingIntent;  
import android.content.Context;  
import android.content.Intent;  
  
import android.os.Build;  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
import android.widget.RemoteViews;  
import androidx.appcompat.app.AppCompatActivity;  
  
public class MainActivity extends AppCompatActivity {  
  
 // declaring variables  
 private NotificationManager notificationManager;  
 private Notification.Builder builder;  
 private final String channelId = "i.apps.notifications";  
  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
  
 Button btn = findViewById(R.id.*btn*);  
 notificationManager = (NotificationManager) getSystemService(Context.*NOTIFICATION\_SERVICE*);  
  
  
 btn.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
  
 Intent intent = new Intent(MainActivity.this, NotificationView.class);  
 PendingIntent pendingIntent = PendingIntent.*getActivity*(MainActivity.this, 0, intent, PendingIntent.*FLAG\_UPDATE\_CURRENT*);  
 RemoteViews contentView = new RemoteViews(getPackageName(), R.layout.*activity\_notification\_view*);  
  
 // checking if android version is greater than oreo(API 26) or not  
 if (Build.VERSION.*SDK\_INT* >= Build.VERSION\_CODES.*O*) {  
  
 builder = new Notification.Builder(MainActivity.this, channelId)  
 .setContent(contentView)  
 .setSmallIcon(R.drawable.*abc*)  
 //.setLargeIcon(BitmapFactory.decodeResource(getResources(), R.drawable.abc))  
  
 .setContentIntent(pendingIntent);  
 } else {  
  
 builder = new Notification.Builder(MainActivity.this)  
 .setContent(contentView)  
 .setSmallIcon(R.drawable.*abc*)  
  
 .setContentIntent(pendingIntent);  
 }  
 notificationManager.notify(1234, builder.build());  
 }  
 });  
 }  
}

**Activity\_main.xml:**

<?xml version="1.0" encoding="utf-8"?>  
<RelativeLayout  
 xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".MainActivity">  
  
 <Button  
 android:id="@+id/btn"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_centerInParent="true"  
 android:text="Send Notification" />  
  
</RelativeLayout>

**NotificationView.java:**

package com.example.notification;  
  
import android.os.Bundle;  
import android.widget.TextView;  
import android.widget.Toast;  
import androidx.appcompat.app.AppCompatActivity;  
  
public class NotificationView extends AppCompatActivity {  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_notification\_view*);  
  
 }  
}

**Activity\_notification\_view.xml:**

<?xml version="1.0" encoding="utf-8"?>  
<RelativeLayout  
 xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".NotificationView">  
  
 <TextView  
 android:id="@+id/textView"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_centerInParent="true"  
 android:text="Welcome To Gacchi"  
 android:textSize="15sp"  
 android:textStyle="bold" />  
 <Button  
 android:text=""  
 android:layout\_width="wrap\_content"  
 android:drawableLeft="@drawable/abc"  
 android:layout\_height="wrap\_content" android:id="@+id/button"/>  
  
</RelativeLayout>

**SQLLITE**

**MainActivity.java**

package com.example.sqlite;  
  
import android.os.Bundle;  
import android.util.Log;  
import androidx.appcompat.app.AppCompatActivity;  
  
import java.util.List;  
  
public class MainActivity extends AppCompatActivity {  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 DatabaseHandler db = new DatabaseHandler(this);  
  
 // Inserting Contacts  
 Log.*d*("Insert: ", "Inserting ..");  
 db.addContact(new Contact("Ravi", "9100000000"));  
 db.addContact(new Contact("Srinivas", "9199999999"));  
 db.addContact(new Contact("Tommy", "9522222222"));  
 db.addContact(new Contact("Karthik", "9533333333"));  
  
 // Reading all contacts  
 Log.*d*("Reading: ", "Reading all contacts..");  
 List<Contact> contacts = db.getAllContacts();  
  
 for (Contact cn : contacts) {  
 String log = "Id: " + cn.getID() + " ,Name: " + cn.getName() + " ,Phone: " +  
 cn.getPhoneNumber();  
 // Writing Contacts to log  
 Log.*d*("Name: ", log);  
 }  
 }  
}

**DatabaseHandler.java(java file):**

package com.example.sqlite;  
  
import android.content.ContentValues;  
import android.content.Context;  
import android.database.Cursor;  
import android.database.sqlite.SQLiteDatabase;  
import android.database.sqlite.SQLiteOpenHelper;  
import java.util.ArrayList;  
import java.util.List;  
  
  
public class DatabaseHandler extends SQLiteOpenHelper {  
 private static final int *DATABASE\_VERSION* = 1;  
 private static final String *DATABASE\_NAME* = "contactsManager";  
 private static final String *TABLE\_CONTACTS* = "contacts";  
 private static final String *KEY\_ID* = "id";  
 private static final String *KEY\_NAME* = "name";  
 private static final String *KEY\_PH\_NO* = "phone\_number";  
  
 public DatabaseHandler(Context context) {  
 super(context, *DATABASE\_NAME*, null, *DATABASE\_VERSION*);  
 //3rd argument to be passed is CursorFactory instance  
 }  
  
 // Creating Tables  
 @Override  
 public void onCreate(SQLiteDatabase db) {  
 String CREATE\_CONTACTS\_TABLE = "CREATE TABLE " + *TABLE\_CONTACTS* + "("  
 + *KEY\_ID* + " INTEGER PRIMARY KEY," + *KEY\_NAME* + " TEXT,"  
 + *KEY\_PH\_NO* + " TEXT" + ")";  
 db.execSQL(CREATE\_CONTACTS\_TABLE);  
 }  
  
 // Upgrading database  
 @Override  
 public void onUpgrade(SQLiteDatabase db, int oldVersion, int newVersion) {  
 // Drop older table if existed  
 db.execSQL("DROP TABLE IF EXISTS " + *TABLE\_CONTACTS*);  
  
 // Create tables again  
 onCreate(db);  
 }  
  
 // code to add the new contact  
 void addContact(Contact contact) {  
 SQLiteDatabase db = this.getWritableDatabase();  
  
 ContentValues values = new ContentValues();  
 values.put(*KEY\_NAME*, contact.getName()); // Contact Name  
 values.put(*KEY\_PH\_NO*, contact.getPhoneNumber()); // Contact Phone  
  
 // Inserting Row  
 db.insert(*TABLE\_CONTACTS*, null, values);  
 //2nd argument is String containing nullColumnHack  
 db.close(); // Closing database connection  
 }  
  
 // code to get the single contact  
 Contact getContact(int id) {  
 SQLiteDatabase db = this.getReadableDatabase();  
  
 Cursor cursor = db.query(*TABLE\_CONTACTS*, new String[] { *KEY\_ID*,  
 *KEY\_NAME*, *KEY\_PH\_NO* }, *KEY\_ID* + "=?",  
 new String[] { String.*valueOf*(id) }, null, null, null, null);  
 if (cursor != null)  
 cursor.moveToFirst();  
  
 Contact contact = new Contact(Integer.*parseInt*(cursor.getString(0)),  
 cursor.getString(1), cursor.getString(2));  
 // return contact  
 return contact;  
 }  
  
 // code to get all contacts in a list view  
 public List<Contact> getAllContacts() {  
 List<Contact> contactList = new ArrayList<Contact>();  
 // Select All Query  
 String selectQuery = "SELECT \* FROM " + *TABLE\_CONTACTS*;  
  
 SQLiteDatabase db = this.getWritableDatabase();  
 Cursor cursor = db.rawQuery(selectQuery, null);  
  
 // looping through all rows and adding to list  
 if (cursor.moveToFirst()) {  
 do {  
 Contact contact = new Contact();  
 contact.setID(Integer.*parseInt*(cursor.getString(0)));  
 contact.setName(cursor.getString(1));  
 contact.setPhoneNumber(cursor.getString(2));  
 // Adding contact to list  
 contactList.add(contact);  
 } while (cursor.moveToNext());  
 }  
  
 // return contact list  
 return contactList;  
 }  
  
 // code to update the single contact  
 public int updateContact(Contact contact) {  
 SQLiteDatabase db = this.getWritableDatabase();  
  
 ContentValues values = new ContentValues();  
 values.put(*KEY\_NAME*, contact.getName());  
 values.put(*KEY\_PH\_NO*, contact.getPhoneNumber());  
  
 // updating row  
 return db.update(*TABLE\_CONTACTS*, values, *KEY\_ID* + " = ?",  
 new String[] { String.*valueOf*(contact.getID()) });  
 }  
  
 // Deleting single contact  
 public void deleteContact(Contact contact) {  
 SQLiteDatabase db = this.getWritableDatabase();  
 db.delete(*TABLE\_CONTACTS*, *KEY\_ID* + " = ?",  
 new String[] { String.*valueOf*(contact.getID()) });  
 db.close();  
 }  
  
 // Getting contacts Count  
 public int getContactsCount() {  
 String countQuery = "SELECT \* FROM " + *TABLE\_CONTACTS*;  
 SQLiteDatabase db = this.getReadableDatabase();  
 Cursor cursor = db.rawQuery(countQuery, null);  
 cursor.close();  
  
 // return count  
 return cursor.getCount();  
 }  
  
}

**Contact.java(java file):**

package com.example.sqlite;  
  
  
public class Contact {  
 int \_id;  
 String \_name;  
 String \_phone\_number;  
 public Contact(){ }  
 public Contact(int id, String name, String \_phone\_number){  
 this.\_id = id;  
 this.\_name = name;  
 this.\_phone\_number = \_phone\_number;  
 }  
  
 public Contact(String name, String \_phone\_number){  
 this.\_name = name;  
 this.\_phone\_number = \_phone\_number;  
 }  
 public int getID(){  
 return this.\_id;  
 }  
  
 public void setID(int id){  
 this.\_id = id;  
 }  
  
 public String getName(){  
 return this.\_name;  
 }  
  
 public void setName(String name){  
 this.\_name = name;  
 }  
  
 public String getPhoneNumber(){  
 return this.\_phone\_number;  
 }  
  
 public void setPhoneNumber(String phone\_number){  
 this.\_phone\_number = phone\_number;  
 }  
}

**AppBar:**

**MainActivity.java:**

package com.example.appbar;  
  
import android.annotation.SuppressLint;  
import android.content.Intent;  
import android.view.ContextMenu;  
import android.view.Menu;  
import android.view.MenuItem;  
import android.view.View;  
import android.widget.\*;  
import androidx.annotation.NonNull;  
import androidx.appcompat.app.AppCompatActivity;  
import android.os.Bundle;  
  
public class MainActivity extends AppCompatActivity {  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 @SuppressLint({"MissingInflatedId", "LocalSuppress"})  
 Spinner spinner=findViewById(R.id.*sp*);  
 ArrayAdapter<CharSequence> adapter=ArrayAdapter.*createFromResource*(this,R.array.*friebds*, android.R.layout.*simple\_spinner\_item*);  
 adapter.setDropDownViewResource(android.R.layout.*simple\_spinner\_item*);  
 spinner.setAdapter(adapter);  
  
  
 TextView tv=findViewById(R.id.*textView*);  
 registerForContextMenu(tv);  
  
 }  
  
 @Override  
 public void onCreateContextMenu(ContextMenu menu, View v, ContextMenu.ContextMenuInfo menuInfo) {  
  
 super.onCreateContextMenu(menu, v, menuInfo);  
 getMenuInflater().inflate(R.menu.*menufile*,menu);  
  
  
 }  
  
 @Override  
 public boolean onCreateOptionsMenu(Menu menu) {  
 getMenuInflater().inflate(R.menu.*menufile*,menu);  
 return super.onCreateOptionsMenu(menu);  
 }  
  
 @Override  
 public boolean onOptionsItemSelected(@NonNull MenuItem item) {  
 switch (item.getItemId())  
 {  
 case R.id.*item1*:  
 Toast.*makeText*(getApplicationContext(), "hii", Toast.*LENGTH\_SHORT*).show();  
 }  
  
 return super.onOptionsItemSelected(item);  
 }  
  
  
  
  
 public void popupshow(View v)  
 {  
 PopupMenu popupMenu=new PopupMenu(this,v);  
 popupMenu.inflate(R.menu.*menufile*);  
 popupMenu.show();  
  
 }  
  
  
  
}

**Activity\_main.xml:**

<?xml version="1.0" encoding="utf-8"?>  
<LinearLayout  
 xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:tools="http://schemas.android.com/tools"  
 xmlns:app="http://schemas.android.com/apk/res-auto"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".MainActivity">  
 <Spinner  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:id="@+id/sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"/>  
 <Button  
 android:text="Button"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:onClick="popupshow"  
 android:id="@+id/button" tools:layout\_editor\_absoluteY="276dp"  
 tools:layout\_editor\_absoluteX="16dp"/>  
 <TextView  
 android:text="TextView"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content" android:id="@+id/textView" tools:layout\_editor\_absoluteY="210dp"  
 tools:layout\_editor\_absoluteX="43dp"/>  
  
</LinearLayout>

**Menufile.xml:**

<?xml version="1.0" encoding="utf-8"?>  
<menu xmlns:app="http://schemas.android.com/apk/res-auto" xmlns:android="http://schemas.android.com/apk/res/android">  
  
 <item android:title="Item" android:id="@+id/item1" app:showAsAction="always"  
 android:icon="@android:drawable/btn\_star\_big\_on"/>  
 <item android:title="Item" android:id="@+id/item2" app:showAsAction="always"  
 android:icon="@android:drawable/ic\_input\_add"/>  
 <item android:title="Item" android:id="@+id/item3"/>  
</menu>

**String.xml:**

<resources>  
 <string name="app\_name">Appbar</string>  
 <string-array name="friebds">  
 <item>Sandhe</item>  
 <item>Prati</item>  
 </string-array>  
</resources>

**Service(Multimedia):**

**MainActivity.xml:**

package com.example.servicesdemo;  
  
import android.annotation.SuppressLint;  
import android.content.Intent;  
import android.view.View;  
import android.widget.Button;  
import androidx.appcompat.app.AppCompatActivity;  
import android.os.Bundle;  
  
public class MainActivity extends AppCompatActivity {  
 Button str,stop;  
 @SuppressLint("MissingInflatedId")  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 str=findViewById(R.id.*startbutton*);  
 stop=findViewById(R.id.*stopbutton*);  
 str.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 startService(new Intent(MainActivity.this,MyService.class));  
   
 }  
 });  
  
 str.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 startService(new Intent(MainActivity.this, MyService.class));  
 }  
 });  
 stop.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 stopService(new Intent(MainActivity.this,MyService.class));  
 }  
 });  
  
 }  
}

**Service.java:**

package com.example.servicesdemo;  
  
import android.app.Service;  
import android.content.Intent;  
import android.media.MediaPlayer;  
import android.os.IBinder;  
import android.provider.Settings;  
import androidx.annotation.Nullable;  
  
public class MyService extends Service {  
 MediaPlayer mp;  
 @Nullable  
 @Override  
 public IBinder onBind(Intent intent) {  
 throw new UnsupportedOperationException("not");  
 }  
  
 @Override  
 public int onStartCommand(Intent intent, int flags, int startId) {  
 mp=MediaPlayer.*create*(this,Settings.System.*DEFAULT\_RINGTONE\_URI*);  
 mp.setLooping(true);  
 mp.start();  
 return *START\_STICKY*;  
 }  
  
 @Override  
 public void onDestroy() {  
 super.onDestroy();  
 mp.stop();  
 }  
  
}

**Recycler view:**

**MainActivity.java:**

package com.example.rvmam;  
  
import android.annotation.SuppressLint;  
import androidx.appcompat.app.AppCompatActivity;  
import android.os.Bundle;  
import androidx.recyclerview.widget.LinearLayoutManager;  
import androidx.recyclerview.widget.RecyclerView;  
  
import static com.example.rvmam.R.\*;  
  
public class MainActivity extends AppCompatActivity {  
 String arr[]= {"jan","Feb","march"};  
 RecyclerView chatlist;  
 @SuppressLint("MissingInflatedId")  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(layout.activity\_main);  
 chatlist=findViewById(R.id.chatlist);  
  
 chatlist.setAdapter(new chatlistAdapter(getApplicationContext(),arr));  
 chatlistAdapter chatlistAdapter= new chatlistAdapter(getApplicationContext(),arr);  
 chatlist.setLayoutManager(new LinearLayoutManager(this));  
 chatlist.setAdapter(chatlistAdapter);  
 }  
}

**chatlistAdapter.java(java class):**

package com.example.rvmam;  
  
import android.content.Context;  
import android.view.LayoutInflater;  
import android.view.View;  
import android.view.ViewGroup;  
import android.widget.Button;  
import android.widget.CheckBox;  
import android.widget.TextView;  
import androidx.annotation.NonNull;  
import androidx.recyclerview.widget.RecyclerView;  
import org.jetbrains.annotations.NotNull;  
  
public class chatlistAdapter extends RecyclerView.Adapter<chatlistAdapter.chatlistHolder> {  
 Context c;   
 String[] data;  
 public chatlistAdapter(Context c, String[] data) {  
 this.c = c;  
 this.data = data;  
 }  
  
  
 @NonNull  
 @NotNull  
 @Override  
 public chatlistAdapter.chatlistHolder onCreateViewHolder(@NonNull @NotNull ViewGroup parent, int viewType) {  
 View view= LayoutInflater.*from*(c).inflate(R.layout.*chatlist\_layout*,null);  
 return new chatlistHolder(view);  
 }  
  
 @Override  
 public void onBindViewHolder(@NonNull @NotNull chatlistAdapter.chatlistHolder holder, int position) {  
 holder.ch.setSelected(true);  
 holder.tv.setText(data[position]);  
 holder.b.setText("Hello");  
  
 }  
  
 @Override  
 public int getItemCount() {  
 return data.length;  
 }  
  
 public class chatlistHolder extends RecyclerView.ViewHolder {  
 CheckBox ch;  
 TextView tv;  
 Button b;  
 public chatlistHolder(@NonNull @NotNull View itemView) {  
 super(itemView);  
 ch=itemView.findViewById(R.id.*checkBox2*);  
 tv=itemView.findViewById(R.id.*textView2*);  
 b=itemView.findViewById(R.id.*button2*);  
  
 }  
 }  
}

**chatlist\_layout.xml(separate xml file from resource folder):**

<?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">  
 <CheckBox  
 android:text="CheckBox"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content" android:id="@+id/checkBox2" android:layout\_weight="1"/>  
 <TextView  
 android:text="TextView"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content" android:id="@+id/textView2" android:layout\_weight="1"/>  
 <Button  
 android:text="Button"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content" android:id="@+id/button2" android:layout\_weight="1"/>  
</LinearLayout>

**Activity\_main.xml:**

<?xml version="1.0" encoding="utf-8"?>  
<androidx.constraintlayout.widget.ConstraintLayout  
 xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:tools="http://schemas.android.com/tools"  
 xmlns:app="http://schemas.android.com/apk/res-auto"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".MainActivity">  
 <TextView  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Hello World!"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"/>  
 <androidx.recyclerview.widget.RecyclerView  
 android:id="@+id/chatlist"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"/>  
  
</androidx.constraintlayout.widget.ConstraintLayout>

**Qu. Notification(By pratiksha)**

**MainActivity.java**

package com.example.newnotification;  
  
import android.annotation.SuppressLint;  
import android.app.NotificationChannel;  
import android.app.NotificationManager;  
import android.content.Context;  
import android.os.Build;  
import android.view.View;  
import android.widget.Button;  
import androidx.appcompat.app.AppCompatActivity;  
import android.os.Bundle;  
import androidx.core.app.NotificationCompat;  
  
public class MainActivity extends AppCompatActivity {  
  
 public Button notifybtn;  
 private static final String *CHANNEL\_ID* = "my\_channel\_id";  
 @SuppressLint("MissingInflatedId")  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 notifybtn=findViewById(R.id.*notify\_btn*);  
  
 notifybtn.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 showNotification();  
 }  
 });  
 }  
 private void showNotification() {  
 NotificationManager notificationManager = (NotificationManager) getSystemService(Context.*NOTIFICATION\_SERVICE*);  
  
 // Create a notification channel for Android Oreo and above  
 if (Build.VERSION.*SDK\_INT* >= Build.VERSION\_CODES.*O*) {  
 NotificationChannel channel = new NotificationChannel(*CHANNEL\_ID*, "My Channel", NotificationManager.*IMPORTANCE\_DEFAULT*);  
 notificationManager.createNotificationChannel(channel);  
 }  
  
 // Build the notification  
 NotificationCompat.Builder builder = new NotificationCompat.Builder(this, *CHANNEL\_ID*)  
 .setSmallIcon(R.drawable.*ic\_launcher\_background*) // Replace notification\_icon with your valid icon ID  
 .setContentTitle("Simple Notification")  
 .setContentText("This is a simple notification.")  
 .setPriority(NotificationCompat.*PRIORITY\_DEFAULT*);  
  
 // Show the notification  
 int notificationId = 1; // You can use a unique ID for each notification  
 notificationManager.notify(notificationId, builder.build());  
 }  
}

**activity\_main.xml**

<?xml version="1.0" encoding="utf-8"?>  
<androidx.constraintlayout.widget.ConstraintLayout  
 xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:tools="http://schemas.android.com/tools"  
 xmlns:app="http://schemas.android.com/apk/res-auto"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".MainActivity">  
 <TextView  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Hello World!"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"/>  
 <Button  
 android:text="Button"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content" android:id="@+id/notify\_btn"/>  
  
</androidx.constraintlayout.widget.ConstraintLayout>

**Qu.10 FireBase**

**AndroidManifest.xml**

<uses-permission android:name="android.permission.INTERNET"/>

<uses-permission android:name="android.permission.ACCESS\_NETWORK\_STATE"/>

**Activity\_main.xml**

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

<RelativeLayout

xmlns:android="http://schemas.android.com/apk/res/android"

xmlns:tools="http://schemas.android.com/tools"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

tools:context=".MainActivity">

<!--EditText for adding employee name-->

<EditText

android:id="@+id/idEdtEmployeeName"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_centerHorizontal="true"

android:layout\_margin="10dp"

android:hint="Enter Employee Name"

android:importantForAutofill="no"

android:inputType="textPersonName" />

<!--EditText for adding employee phone-->

<EditText

android:id="@+id/idEdtEmployeePhoneNumber"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_below="@id/idEdtEmployeeName"

android:layout\_margin="10dp"

android:hint="Enter employee phone number"

android:importantForAutofill="no"

android:inputType="phone" />

<!--EditText for adding employee address-->

<EditText

android:id="@+id/idEdtEmployeeAddress"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_below="@id/idEdtEmployeePhoneNumber"

android:layout\_margin="10dp"

android:hint="Enter employee address"

android:inputType="textPostalAddress" />

<!--Button for adding data to Firebase-->

<Button

android:id="@+id/idBtnSendData"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_below="@id/idEdtEmployeeAddress"

android:layout\_margin="10dp"

android:text="Add employee details"

android:textAllCaps="false" />

</RelativeLayout>

**Employeeinfo.java**

public class EmployeeInfo {

// string variable for

// storing employee name.

private String employeeName;

// string variable for storing

// employee contact number

private String employeeContactNumber;

// string variable for storing

// employee address.

private String employeeAddress;

// an empty constructor is

// required when using

// Firebase Realtime Database.

public EmployeeInfo() {

}

// created getter and setter methods

// for all our variables.

public String getEmployeeName() {

return employeeName;

}

public void setEmployeeName(String employeeName) {

this.employeeName = employeeName;

}

public String getEmployeeContactNumber() {

return employeeContactNumber;

}

public void setEmployeeContactNumber(String employeeContactNumber) {

this.employeeContactNumber = employeeContactNumber;

}

public String getEmployeeAddress() {

return employeeAddress;

}

public void setEmployeeAddress(String employeeAddress) {

this.employeeAddress = employeeAddress;

}

}

**MainActivity.java**

**import android.os.Bundle;**

**import android.text.TextUtils;**

**import android.view.View;**

**import android.widget.Button;**

**import android.widget.EditText;**

**import android.widget.Toast;**

**import androidx.annotation.NonNull;**

**import androidx.appcompat.app.AppCompatActivity;**

**import com.google.firebase.database.DataSnapshot;**

**import com.google.firebase.database.DatabaseError;**

**import com.google.firebase.database.DatabaseReference;**

**import com.google.firebase.database.FirebaseDatabase;**

**import com.google.firebase.database.ValueEventListener;**

**public class MainActivity extends AppCompatActivity {**

**// creating variables for**

**// EditText and buttons.**

**private EditText employeeNameEdt, employeePhoneEdt, employeeAddressEdt;**

**private Button sendDatabtn;**

**// creating a variable for our**

**// Firebase Database.**

**FirebaseDatabase firebaseDatabase;**

**// creating a variable for our Database**

**// Reference for Firebase.**

**DatabaseReference databaseReference;**

**// creating a variable for**

**// our object class**

**EmployeeInfo employeeInfo;**

**@Override**

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

**super.onCreate(savedInstanceState);**

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

**// initializing our edittext and button**

**employeeNameEdt = findViewById(R.id.idEdtEmployeeName);**

**employeePhoneEdt = findViewById(R.id.idEdtEmployeePhoneNumber);**

**employeeAddressEdt = findViewById(R.id.idEdtEmployeeAddress);**

**// below line is used to get the**

**// instance of our FIrebase database.**

**firebaseDatabase = FirebaseDatabase.getInstance();**

**// below line is used to get reference for our database.**

**databaseReference = firebaseDatabase.getReference("EmployeeInfo");**

**// initializing our object**

**// class variable.**

**employeeInfo = new EmployeeInfo();**

**sendDatabtn = findViewById(R.id.idBtnSendData);**

**// adding on click listener for our button.**

**sendDatabtn.setOnClickListener(new View.OnClickListener() {**

**@Override**

**public void onClick(View v) {**

**// getting text from our edittext fields.**

**String name = employeeNameEdt.getText().toString();**

**String phone = employeePhoneEdt.getText().toString();**

**String address = employeeAddressEdt.getText().toString();**

**// below line is for checking whether the**

**// edittext fields are empty or not.**

**if (TextUtils.isEmpty(name) && TextUtils.isEmpty(phone) && TextUtils.isEmpty(address)) {**

**// if the text fields are empty**

**// then show the below message.**

**Toast.makeText(MainActivity.this, "Please add some data.", Toast.LENGTH\_SHORT).show();**

**} else {**

**// else call the method to add**

**// data to our database.**

**addDatatoFirebase(name, phone, address);**

**}**

**}**

**});**

**}**

**private void addDatatoFirebase(String name, String phone, String address) {**

**// below 3 lines of code is used to set**

**// data in our object class.**

**employeeInfo.setEmployeeName(name);**

**employeeInfo.setEmployeeContactNumber(phone);**

**employeeInfo.setEmployeeAddress(address);**

**// we are use add value event listener method**

**// which is called with database reference.**

**databaseReference.addValueEventListener(new ValueEventListener() {**

**@Override**

**public void onDataChange(@NonNull DataSnapshot snapshot) {**

**// inside the method of on Data change we are setting**

**// our object class to our database reference.**

**// data base reference will sends data to firebase.**

**databaseReference.setValue(employeeInfo);**

**// after adding this data we are showing toast message.**

**Toast.makeText(MainActivity.this, "data added", Toast.LENGTH\_SHORT).show();**

**}**

**@Override**

**public void onCancelled(@NonNull DatabaseError error) {**

**// if the data is not added or it is cancelled then**

**// we are displaying a failure toast message.**

**Toast.makeText(MainActivity.this, "Fail to add data " + error, Toast.LENGTH\_SHORT).show();**

**}**

**});**

**}**

**}**

**Qu.SQLite(sejal)**

**MainActivity.java**

**package com.example.databaseapp;**

**import androidx.appcompat.app.AppCompatActivity;**

**import android.os.Bundle;**

**import android.widget.TextView;**

**import java.util.ArrayList;**

**public class MainActivity extends AppCompatActivity {**

**TextView txtrollno,txtname;**

**@Override**

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

**super.onCreate(savedInstanceState);**

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

**Mydbhelper dbhelper=new Mydbhelper(this);**

**dbhelper.addstudent(1,"sejal ");**

**dbhelper.addstudent(2,"akshat");**

**ArrayList<studentdetails>details=dbhelper.fetchstudents();**

**txtrollno=(TextView) findViewById(R.id.textView);**

**txtname=(TextView) findViewById(R.id.textView2);**

**txtrollno.setText(Integer.toString(details.get(0).student\_id));**

**txtname.setText(details.get(0).name.toString());**

**}**

**}**

**Mydbhelper.java**

**package com.example.databaseapp;**

**import android.content.ContentValues;**

**import android.content.Context;**

**import android.database.Cursor;**

**import android.database.sqlite.SQLiteDatabase;**

**import android.database.sqlite.SQLiteOpenHelper;**

**import androidx.annotation.Nullable;**

**import java.util.ArrayList;**

**public class Mydbhelper extends SQLiteOpenHelper {**

**private static final String database\_name="college";**

**private static final int database\_version=1;**

**public Mydbhelper( Context context) {**

**super(context,database\_name,null,database\_version);**

**}**

**@Override**

**public void onCreate(SQLiteDatabase db) {**

**String create="create table student(student\_id integer primary key,name text not null)";**

**db.execSQL(create); }**

**Studentsdetails.java**

**package com.example.databaseapp;**

**public class studentdetails {**

**int student\_id;**

**String name;**

**}**

**Activity\_main.xml**

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

**<AbsoluteLayout**

**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"**

**android:layout\_gravity="center"**

**tools:context=".MainActivity"**

**android:background="@drawable/img">**

**<TextView**

**android:id="@+id/textView4"**

**android:layout\_width="144dp"**

**android:layout\_height="49dp"**

**android:layout\_x="35dp"**

**android:layout\_y="247dp"**

**android:text="Name:"**

**android:textColor="#321F53"**

**android:textSize="30dp" />**

**<TextView**

**android:id="@+id/textView"**

**android:layout\_width="158dp"**

**android:layout\_height="56dp"**

**android:layout\_x="220dp"**

**android:layout\_y="141dp"**

**android:text=""**

**android:textSize="30dp"/>**

**<TextView**

**android:id="@+id/textView2"**

**android:layout\_width="168dp"**

**android:layout\_height="56dp"**

**android:layout\_x="224dp"**

**android:layout\_y="243dp"**

**android:text=""**

**android:textSize="30dp"/>**

**<TextView**

**android:id="@+id/textView3"**

**android:layout\_width="131dp"**

**android:layout\_height="49dp"**

**android:layout\_x="35dp"**

**android:layout\_y="146dp"**

**android:text="Roll No:"**

**android:textColor="#321F53"**

**android:textSize="30dp" />**

**<TextView**

**android:id="@+id/textView5"**

**android:layout\_width="302dp"**

**android:layout\_height="49dp"**

**android:layout\_x="59dp"**

**android:layout\_y="47dp"**

**android:text="Student\_Details"**

**android:textAlignment="center"**

**android:textColor="#160435"**

**android:textFontWeight="1"**

**android:textSize="40dp"**

**android:textStyle="italic" />**

**</AbsoluteLayout>**