

## Q1) Solve:

New Project

**Empty Views Activity**  
Creates a new empty activity

Name: simplePersonalOrganizer\_2023EBCS402

Package name: com.example.simplepersonalorganizer\_2023ebcs402

Save location: .\Users\HP\AndroidStudioProjects\simplePersonalOrganizer\_2023EBCS402

Language: Kotlin

Minimum SDK: API 24 ("Nougat"; Android 7.0)

*📘 Your app will run on approximately 98.6% of devices.  
[Help me choose](#)*

Build configuration language: Kotlin DSL (build.gradle.kts) [Recommended]

*📘 The application name for most apps begins with an uppercase letter*

Previous Next Cancel Finish

simplepersonalorganizer\_2023ebcs402 Version control

**Project Files**

- app
  - build
  - src
    - androidTest
    - main
      - java
        - com
          - example
            - simplepersonalorganizer\_2023ebcs402
              - adapter
              - model
              - DatabaseHelper
              - MainActivity
              - UserListActivity
    - res
      - drawable
      - layout
        - activity\_main.xml
        - activity\_user\_list.xml
        - item\_user.xml
      - mipmap-anydpi-v26
      - mipmap-hdpi
      - mipmap-mdpi
      - mipmap-xhdpi
      - mipmap-xxhdpi
      - mipmap-xxxhdpi
      - values
      - values-night
      - xml
- AndroidManifest.xml

Build Sync Build Output Build Analyzer

simplepersonalorganizer\_2023ebcs402 > app > src > main > res > layout

```

1  <?xml version="1.0" encoding="utf-8"?>
2  <manifest xmlns:android="http://schemas.android.com/apk/res/android"
3      xmlns:tools="http://schemas.android.com/tools">
4
5      <application
6          android:allowBackup="true"
7          android:dataExtractionRules="@xml/data_extraction_rules"
8          android:fullBackupContent="@xml/backup_rules"
9          android:icon="@mipmap/ic_launcher"
10         android:label="SimplePersonalOrganizer"
11         android:roundIcon="@mipmap/ic_launcher_round"
12         android:supportsRtl="true"
13         android:theme="@style/Theme.SimplePersonalOrganizer_2023ebcs402"
14         tools:targetApi="31">
15         <activity
16             android:name=".MainActivity"
17             android:exported="true">
18             <intent-filter>
19                 <action android:name="android.intent.action.MAIN" />
20
21                 <category android:name="android.intent.category.LAUNCHER" />
22             </intent-filter>
23         </activity>
24         <activity android:name=".UserListActivity"/>
25     </application>
26
27 </manifest>

```

Build.gradle.kts //file

```

plugins {
    alias(libs.plugins.android.application)
    alias(libs.plugins.kotlin.android)
}

android {
    namespace = "com.example.simplepersonalorganizer_2023ebcs402"
    compileSdk = 35

    defaultConfig {
        applicationId = "com.example.simplepersonalorganizer_2023ebcs402"
        minSdk = 24
        targetSdk = 35
        versionCode = 1
        versionName = "1.0"

        testInstrumentationRunner = "androidx.test.runner.AndroidJUnitRunner"
    }

    buildTypes {
        release {
            isMinifyEnabled = false
            proguardFiles(
                getDefaultProguardFile("proguard-android-optimize.txt"),
                "proguard-rules.pro"
            )
        }
    }
}

```

```

        )
    }
}
compileOptions {
    sourceCompatibility = JavaVersion.VERSION_11
    targetCompatibility = JavaVersion.VERSION_11
}
kotlinOptions {
    jvmTarget = "11"
}
}

dependencies {

    implementation(libs.androidx.core.ktx)
    implementation(libs.androidx.appcompat)
    implementation(libs.material)
    implementation(libs.androidx.activity)
    implementation(libs.androidx.constraintlayout)
    testImplementation(libs.junit)
    androidTestImplementation(libs.androidx.junit)
    androidTestImplementation(libs.androidx.espresso.core)
}

```

## Database Helper class code

```

package com.example.simplepersonalorganizer_2023ebcs402

import android.content.ContentValues
import android.content.Context
import android.database.sqlite.SQLiteDatabase
import android.database.sqlite.SQLiteOpenHelper
import com.example.simplepersonalorganizer_2023ebcs402.model.User

class DatabaseHelper(context: Context) :
    SQLiteOpenHelper(context, DATABASE_NAME, null, DATABASE_VERSION) {

    companion object {
        private const val DATABASE_NAME = "PersonalOrganizer.db"
        private const val DATABASE_VERSION = 1
        private const val TABLE_USERS = "Users"
        private const val COLUMN_ID = "id"
        private const val COLUMN_NAME = "name"
        private const val COLUMN_EMAIL = "email"
    }

    override fun onCreate(db: SQLiteDatabase) {
        val createTable = """
            CREATE TABLE $TABLE_USERS (
                $COLUMN_ID INTEGER PRIMARY KEY AUTOINCREMENT,
                $COLUMN_NAME TEXT,
                $COLUMN_EMAIL TEXT
            )
            """
        db.execSQL(createTable)
    }
}

```

```

    override fun onUpgrade(db: SQLiteDatabase, oldVersion: Int, newVersion:
Int) {
        db.execSQL("DROP TABLE IF EXISTS $TABLE_USERS")
        onCreate(db)
    }

    fun insertUser(name: String, email: String): Long {
        val db = writableDatabase
        val values = ContentValues()
        values.put(COLUMN_NAME, name)
        values.put(COLUMN_EMAIL, email)
        return db.insert(TABLE_USERS, null, values)
    }

    fun getUsersByName(name: String): List<User> {
        val userList = mutableListOf<User>()
        val db = readableDatabase
        val cursor = db.query(
            TABLE_USERS, null,
            "$COLUMN_NAME=?", arrayOf(name),
            null, null, null
        )

        if (cursor.moveToFirst()) {
            do {
                val id =
cursor.getInt(cursor.getColumnIndexOrThrow(COLUMN_ID))
                val userName =
cursor.getString(cursor.getColumnIndexOrThrow(COLUMN_NAME))
                val userEmail =
cursor.getString(cursor.getColumnIndexOrThrow(COLUMN_EMAIL))
                userList.add(User(id, userName, userEmail))
            } while (cursor.moveToNext())
        }

        cursor.close()
        return userList
    }
}

```

## Question B: Design the Information Form

//activity\_main.xml

```

<?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:gravity="center"
    android:orientation="vertical"
    android:padding="24dp"
    android:background="#FAFAFA">

    <TextView
        android:text="Simple Personal Organizer"
        android:textSize="24sp"
        android:textStyle="bold"

```

```
        android:textColor="#333333"
        android:layout_marginBottom="32dp"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content" />
```

```
<TextView
    android:text="Name"
    android:textColor="#444444"
    android:layout_width="match_parent"
    android:layout_height="wrap_content" />
```

```
<EditText
    android:id="@+id/etName"
    android:hint="Enter your name"
    android:layout_width="match_parent"
    android:layout_height="48dp"
    android:minHeight="48dp"
    android:padding="12dp"
    android:layout_margin="4dp"
/>
```

```
<TextView
    android:text="Email"
    android:textColor="#444444"
    android:layout_marginTop="16dp"
    android:layout_width="match_parent"
    android:layout_height="wrap_content" />
```

```
<EditText
    android:id="@+id/etEmail"
    android:hint="Enter your email"
    android:inputType="textEmailAddress"
    android:layout_width="match_parent"
    android:layout_height="48dp"
    android:minHeight="48dp"
    android:padding="12dp"
    android:layout_margin="4dp"/>
```

```
<Button
    android:id="@+id/btnSave"
    android:text="Save"
    android:layout_marginTop="24dp"
    android:layout_width="match_parent"
    android:layout_height="wrap_content" />
```

```
<Button
    android:id="@+id/btnViewUsers"
    android:text="View All Users"
    android:layout_marginTop="16dp"
    android:layout_width="match_parent"
    android:layout_height="wrap_content" />
```

```
</LinearLayout>
```

```
//MainActivity.kt
```

```
package com.example.simplepersonalorganizer_2023ebcs402
```

```
import android.content.Intent
import android.os.Bundle
import android.util.Patterns
import android.widget.*
```

```

import androidx.appcompat.app.AppCompatActivity

class MainActivity : AppCompatActivity() {

    private lateinit var db: DatabaseHelper

    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)

        db = DatabaseHelper(this)

        val etName = findViewById<EditText>(R.id.etName)
        val etEmail = findViewById<EditText>(R.id.etEmail)
        val btnSave = findViewById<Button>(R.id.btnSave)
        val btnViewUsers = findViewById<Button>(R.id.btnViewUsers)

        btnSave.setOnClickListener {
            val name = etName.text.toString().trim()
            val email = etEmail.text.toString().trim()

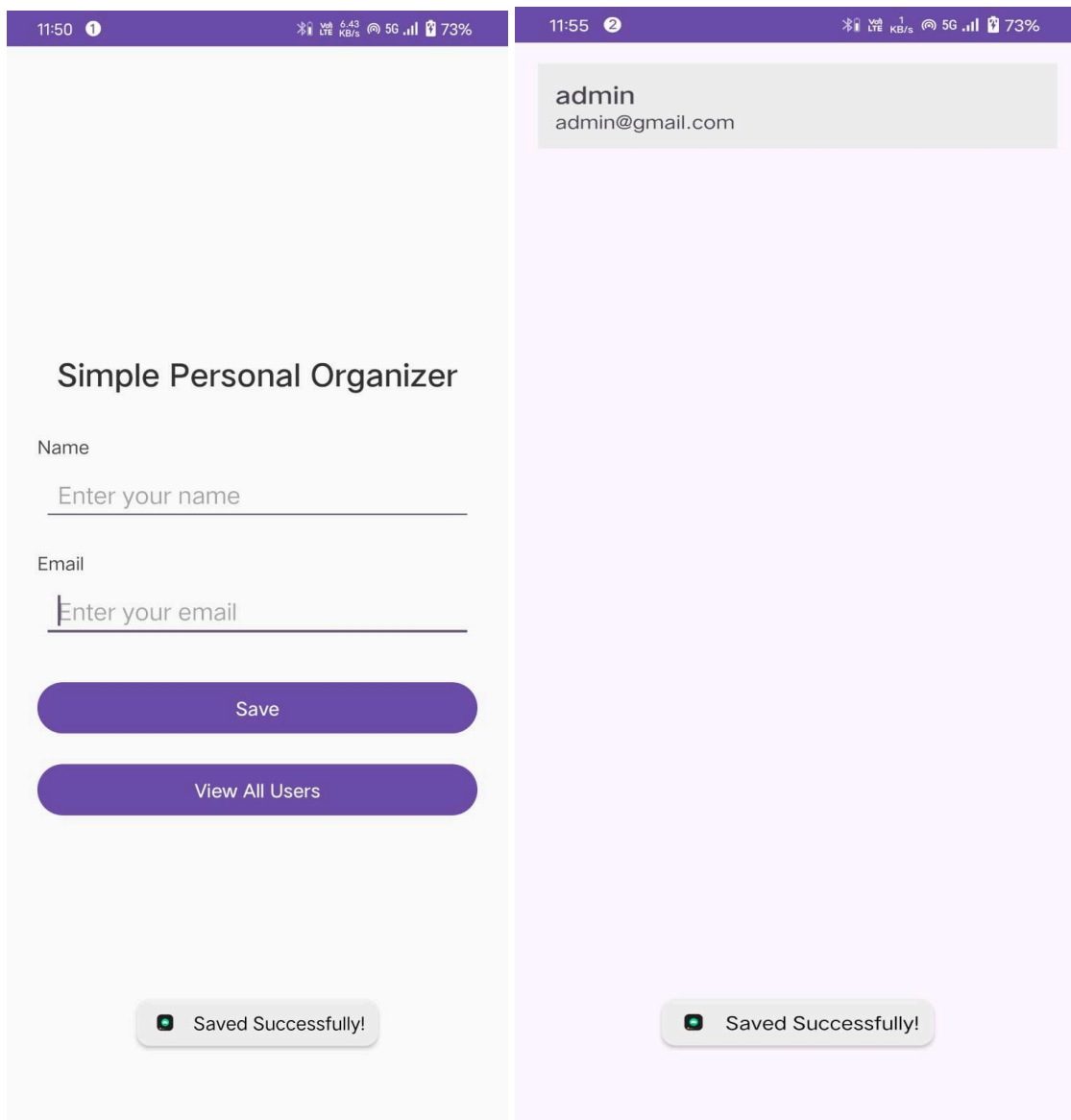
            // Validate name and email
            if (name.isEmpty() || email.isEmpty()) {
                Toast.makeText(this, "Please fill all fields", Toast.LENGTH_SHORT).show()
                return@setOnClickListener
            }

            // Validate email format
            if (!Patterns.EMAIL_ADDRESS.matcher(email).matches()) {
                Toast.makeText(this, "Please enter a valid email",
Toast.LENGTH_SHORT).show()
                return@setOnClickListener
            }

            // Insert validated user
            val result = db.insertUser(name, email)
            if (result != -1L) {
                Toast.makeText(this, "Saved Successfully!", Toast.LENGTH_SHORT).show()
                etName.text.clear()
                etEmail.text.clear()
            } else {
                Toast.makeText(this, "Error saving user", Toast.LENGTH_SHORT).show()
            }
        }

        btnViewUsers.setOnClickListener {
            startActivity(Intent(this, UserListActivity::class.java))
        }
    }
}

```



## Question C: Implement Navigation and Data Retrieval

//UserActivityList.kt

```
package com.example.simplepersonalorganizer_2023ebcs402
```

```
import android.os.Bundle
import androidx.appcompat.app.AppCompatActivity
import androidx.recyclerview.widget.LinearLayoutManager
import androidx.recyclerview.widget.RecyclerView
import com.example.simplepersonalorganizer_2023ebcs402.adapter.UserAdapter
```

```
class UserListActivity : AppCompatActivity() {
    private lateinit var db: DatabaseHelper
    private lateinit var recyclerView: RecyclerView

    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_user_list)

        db = DatabaseHelper(this)
        recyclerView = findViewById(R.id.recyclerViewUsers)
        recyclerView.layoutManager = LinearLayoutManager(this)

        val userList = db.getUsersByName("admin")
        recyclerView.adapter = UserAdapter(userList)
    }
}
```

```

}
//UserAdapter.kt
package com.example.simplepersonalorganizer_2023ebcs402.adapter

import android.view.LayoutInflater
import android.view.View
import android.view.ViewGroup
import android.widget.TextView
import androidx.recyclerview.widget.RecyclerView
import com.example.simplepersonalorganizer_2023ebcs402.R
import com.example.simplepersonalorganizer_2023ebcs402.model.User

class UserAdapter(private val userList: List<User>) :
    RecyclerView.Adapter<UserAdapter.UserViewHolder>() {

    inner class UserViewHolder(view: View) : RecyclerView.ViewHolder(view) {
        val tvName: TextView = view.findViewById(R.id.tvUserName)
        val tvEmail: TextView = view.findViewById(R.id.tvUserEmail)
    }

    override fun onCreateViewHolder(parent: ViewGroup, viewType: Int): UserViewHolder {
        val itemView = LayoutInflater.from(parent.context)
            .inflate(R.layout.item_user, parent, false)
        return UserViewHolder(itemView)
    }

    override fun onBindViewHolder(holder: UserViewHolder, position: Int) {
        val user = userList[position]
        holder.tvName.text = user.name
        holder.tvEmail.text = user.email
    }

    override fun getItemCount(): Int = userList.size
}

//model/User.kt
package com.example.simplepersonalorganizer_2023ebcs402.model

data class User(
    val id: Int,
    val name: String,
    val email: String
)

//activity_user_list.xml
<?xml version="1.0" encoding="utf-8"?>
<androidx.recyclerview.widget.RecyclerView
xmlns:android="http://schemas.android.com/apk/res/android"
    android:id="@+id/recyclerViewUsers"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:padding="16dp"/>

//item_user.xml
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:padding="12dp"
    android:orientation="vertical"
    android:background="#EEEEEE"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginBottom="12dp">

```



```
<TextView
    android:id="@+id/tvUserName"
    android:textSize="18sp"
    android:textStyle="bold"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"/>

<TextView
    android:id="@+id/tvUserEmail"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"/>
</LinearLayout>
```