UNIVERSITI MALAYSIA TERENGGANU

CSM3123 – NATIVE MOBILE PROGRAMMING

BACHELOR OF COMPUTER SCIENCE (MOBILE COMPUTING) WITH HONORS

LAB 4

SEMESTER I 2024/2025

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TASK 1

MainActivity

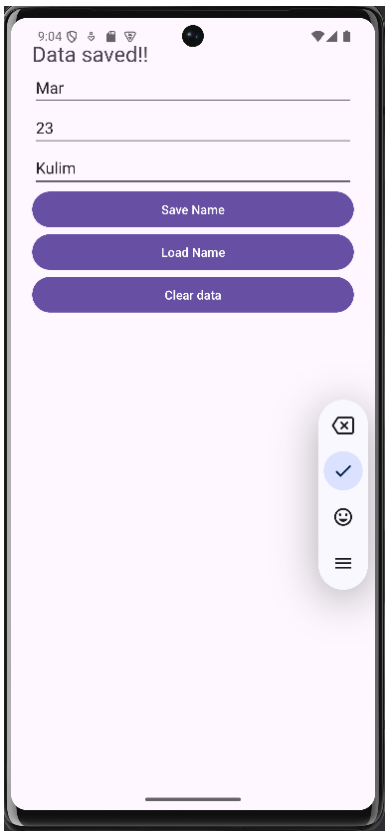
```
package com.example.sharedpreferencesdemo

import android.content.Context
import android.os.Bundle
import android.widget.Button
import android.widget.EditText
import android.widget.TextView
import androidx.activity.enableEdgeToEdge
import androidx.appcompat.app.AppCompatActivity
import androidx.core.view.ViewCompat
import androidx.core.view.WindowInsetsCompat

class MainActivity : AppCompatActivity() {

    private lateinit var greetingTextView: TextView
    private lateinit var nameEditText: EditText
    private lateinit var ageEditText: EditText
    private lateinit var cityEditText: EditText
    private lateinit var saveButton: Button
    private lateinit var loadButton: Button
    private lateinit var clearButton: Button

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

        greetingTextView = findViewById(R.id.tv_greeting)
        nameEditText = findViewById(R.id.et_name)
        ageEditText = findViewById(R.id.et_age)
        cityEditText = findViewById(R.id.et_city)

        saveButton = findViewById(R.id.btnSave)
        loadButton = findViewById(R.id.btn_load)
        clearButton = findViewById(R.id.btn_clear)

        saveButton.setOnClickListener{
            saveName()
        }

        loadButton.setOnClickListener{
            loadName()
        }

        clearButton.setOnClickListener{
            clear()
        }
    }

    private fun saveName(){



        val name = nameEditText.text.toString()
        val age = ageEditText.text.toString()
        val city = cityEditText.text.toString()
```

```
        var isValid = true

        if(name.isEmpty()){
            nameEditText.error = "Please enter your name"
            isValid = false
        }

        if(age.isEmpty()){
            ageEditText.error = "Please enter your age"
            isValid = false
        }

        if(city.isEmpty()){
            cityEditText.error = "Please enter your city"
            isValid = false
        }

        if(isValid){
            val sharedPreferences =
getSharedPreferences("UserPreferences", Context.MODE_PRIVATE)
            val editor = sharedPreferences.edit()
            editor.putString("userName", name)
            editor.putString("userAge", age)
            editor.putString("userCity", city)
            editor.apply()

            greetingTextView.text = "Data saved!!"
        }

    }

    private fun loadName(){
        val sharedPreferences = getSharedPreferences("UserPreferences",
Context.MODE_PRIVATE)
        val savedName = sharedPreferences.getString("userName", "No name
saved")

        greetingTextView.text = "Welcome, $savedName!"
    }

    private fun clear(){
        val sharedPreferences = getSharedPreferences("UserPreferences",
Context.MODE_PRIVATE)
        val editor = sharedPreferences.edit()

        editor.clear()
        editor.apply()

        greetingTextView.text = "Data Cleared"
        nameEditText.text.clear()
        ageEditText.text.clear()
        cityEditText.text.clear()


    }
}
```

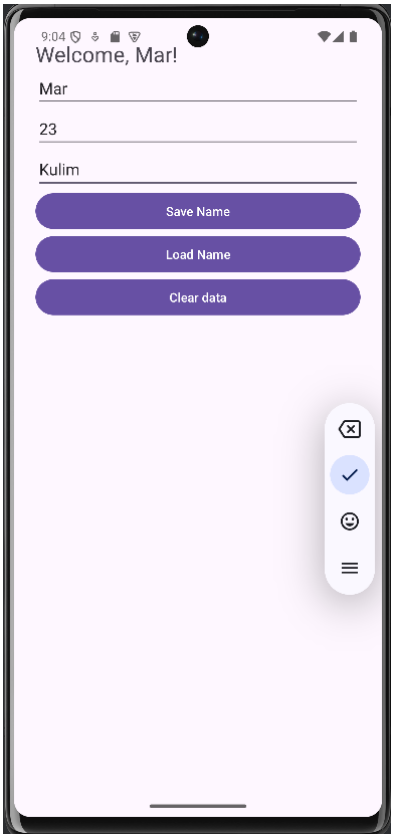
Activity_main

```
<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="24dp">

    <TextView
        android:id="@+id/tv_greeting"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:textSize="24dp"
        android:layout_gravity="center_horizontal"
    />

    <EditText
        android:id="@+id/et_name"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:inputType="text"
        android:hint="Name..."/>

    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/et_age"
        android:inputType="text"
        android:hint="Age..."
        />
    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/et_city"
        android:inputType="text"
        android:hint="City..."
        />

    <Button
        android:id="@+id/btnSave"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Save Name"
        android:layout_gravity="center_horizontal"
        />

    <Button
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/btn_load"
        android:text="Load Name"
        android:layout_gravity="center_horizontal"
        />

    <Button
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/btn_clear"
        android:text="Clear data"
        android:layout_gravity="center_horizontal"
```

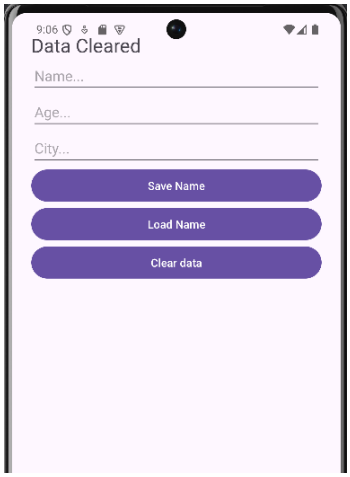
```
        />
</LinearLayout>
```



When save Name was clicked



When load name was clicked



When clear data was clicked

TASK 2

MainActivity

```
package com.example.sqlitedemo

import android.os.Bundle
import android.widget.Button
import android.widget.EditText
import android.widget.TextView
import android.widget.Toast
import androidx.activity.enableEdgeToEdge
import androidx.appcompat.app.AppCompatActivity
import androidx.core.view.ViewCompat
import androidx.core.view.WindowInsetsCompat

class MainActivity : AppCompatActivity() {

    private lateinit var databaseHelper: DatabaseHelper
    private lateinit var nameEditText: EditText
    private lateinit var ageEditText: EditText
    private lateinit var idEditText: EditText
    private lateinit var resultTextView: TextView
    private lateinit var addButton: Button
    private lateinit var viewButton: Button
    private lateinit var updateButton: Button
    private lateinit var deleteButton: Button

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

        databaseHelper = DatabaseHelper(this)

        nameEditText = findViewById(R.id.et_name)
        ageEditText = findViewById(R.id.age)
        idEditText = findViewById(R.id.et_id)
        resultTextView = findViewById(R.id.tv_result)
        addButton = findViewById(R.id.btn_add)
        viewButton = findViewById(R.id.btn_view)
        updateButton = findViewById(R.id.btn_update)
        deleteButton = findViewById(R.id.btn_delete)

        updateButton.setOnClickListener{
            updateUser()
        }

        deleteButton.setOnClickListener{
            deleteUser()
        }

        addButton.setOnClickListener{
            addUser()
        }

        viewButton.setOnClickListener{
            viewUsers()
        }

    }
```

```
    private fun addUser(){
        val name = nameEditText.text.toString()
        val age = ageEditText.text.toString().toIntOrNull()

        if(name.isNotEmpty() && age != null){
            val success = databaseHelper.addUser(name, age)
            if(success){
                Toast.makeText(this, "User added successfully",
Toast.LENGTH_SHORT).show()
                nameEditText.text.clear()
                ageEditText.text.clear()
            } else {
                Toast.makeText(this, "Failed to add user",
Toast.LENGTH_SHORT).show()
            }
        }
    }

    private fun viewUsers(){
        val users = databaseHelper.getAllUsers()
        resultTextView.text = if (users.isNotEmpty()){
            users.joinToString("\n")
        } else {
            "No users found"
        }
    }

    private fun updateUser(){
        val id = idEditText.text.toString().toIntOrNull()
        val newName = nameEditText.text.toString()
        val newAge = ageEditText.text.toString().toIntOrNull()

        if(id != null && newName.isNotEmpty() && newAge != null){
            val success = databaseHelper.updateUser(id, newName, newAge)
            if(success){
                Toast.makeText(this, "User updated successfully",
Toast.LENGTH_SHORT).show()
            } else {
                Toast.makeText(this, "Failed to update user",
Toast.LENGTH_SHORT).show()
            }
        }
    }

    private fun deleteUser(){
        val id = idEditText.text.toString().toIntOrNull()

        if(id != null){
            val success = databaseHelper.deleteUser(id)
            if(success){
                Toast.makeText(this, "User deleted successfully",
Toast.LENGTH_SHORT).show()
            } else {
                Toast.makeText(this, "Failed to delete user",
Toast.LENGTH_SHORT).show()
            }
        } else {
            Toast.makeText(this, "Please provide a valid ID",
Toast.LENGTH_SHORT).show()
        }
```

```
        }
}
```

Activity_main

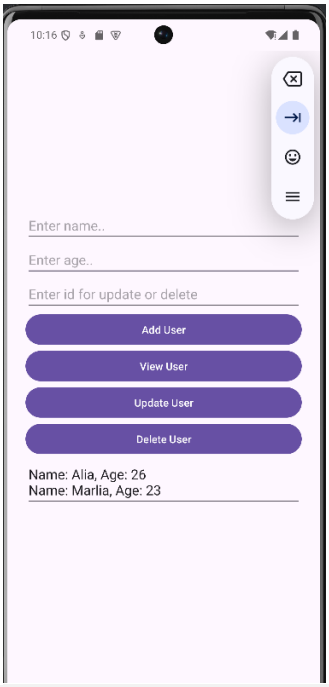
```
<LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:id="@+id/main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:gravity="center"
    android:padding="24dp"
    tools:context=".MainActivity">

    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/et_name"
        android:inputType="text"
        android:hint="Enter name.."
         />

    <EditText
        android:id="@+id/age"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Enter age.."
        android:inputType="text" />

    <EditText
        android:id="@+id/et_id"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Enter id for update or delete"
        android:inputType="text" />

    <Button
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/btn_add"
        android:text="Add User"/>

    <Button
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/btn_view"
        android:text="View User"/>

    <Button
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/btn_update"
        android:text="Update User"/>

    <Button
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/btn_delete"
        android:text="Delete User"/>

    <EditText
```

```
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/tv_result"
        android:text="User data will appear here"/>


</LinearLayout>
```

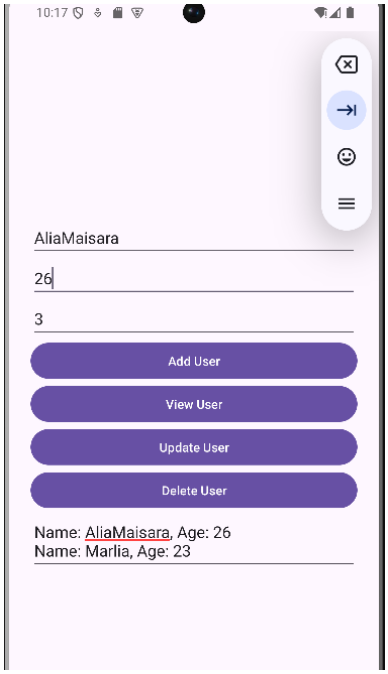
DatabaseHelper

```
package com.example.sqlitedemo

import android.content.ContentValues
import android.content.Context
import android.database.sqlite.SQLiteDatabase
import android.database.sqlite.SQLiteOpenHelper
import android.provider.Telephony.Mms.Part.TEXT

class DatabaseHelper (context: Context) : SQLiteOpenHelper(context,
DATABASE_NAME, null, DATABASE_VERSION){
    companion object{
        private const val DATABASE_NAME = "UserDatabase"
        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_AGE = "age"
    }

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

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

    fun addUser(name:String, age: Int): Boolean
    {
        val db = this.writableDatabase
        val contentValues = ContentValues()
        contentValues.put(COLUMN_NAME, name)
        contentValues.put(COLUMN_AGE, age)

        val result = db.insert(TABLE_USERS, null, contentValues)
        db.close()
        return result != -1L
    }

    fun getAllUsers(): List<String>{
        val userList = ArrayList<String>()
        val db = this.readableDatabase
        val cursor = db.rawQuery("SELECT * FROM $TABLE_USERS", null)
```

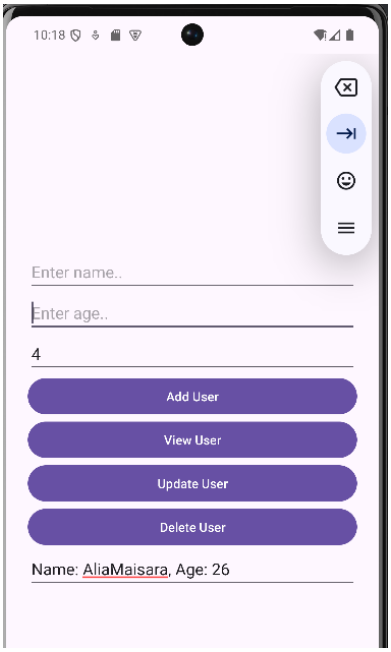
```
        if(cursor.moveToFirst()){
            do {
                val name =
cursor.getString(cursor.getColumnIndexOrThrow(COLUMN_NAME))
                val age =
cursor.getInt(cursor.getColumnIndexOrThrow(COLUMN_AGE))
                userList.add("Name: $name, Age: $age")
            }
                while (cursor.moveToNext())
        }
        cursor.close()
        db.close()
        return userList
    }

    fun updateUser(id: Int, name: String, age: Int): Boolean{
        val db = this.writableDatabase
        val contentValues = ContentValues()
        contentValues.put(COLUMN_NAME, name)
        contentValues.put(COLUMN_AGE, age)

        val result = db.update(TABLE_USERS, contentValues,
"$COLUMN_ID=?",arrayOf(id.toString()))
        db.close()
        return result > 0
    }

    fun deleteUser(id: Int): Boolean{
        val db = this.writableDatabase
        val result = db.delete(TABLE_USERS, "$COLUMN_ID=?",
arrayOf(id.toString()))
        db.close()
        return result > 0
    }

}
```



After click save and view user



After update Alia data and press view user



After press delete button

TASK 3

MainActivity

```
package com.example.recyclerviewsqlitedemo

import android.os.Bundle
import android.widget.Button
import android.widget.EditText
import android.widget.Toast
import androidx.activity.enableEdgeToEdge
import androidx.appcompat.app.AlertDialog
import androidx.appcompat.app.AppCompatActivity
import androidx.core.view.ViewCompat
import androidx.core.view.WindowInsetsCompat
import androidx.recyclerview.widget.LinearLayoutManager
import androidx.recyclerview.widget.RecyclerView
import androidx.recyclerview.widget.RecyclerView.Recycler

class MainActivity : AppCompatActivity() {

    private lateinit var databaseHelper: DatabaseHelper
    private lateinit var userAdapter: UserAdapter
    private lateinit var recyclerView: RecyclerView
    private lateinit var addUserButton: Button


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

        databaseHelper = DatabaseHelper(this)
        recyclerView = findViewById(R.id.recycler_view)
        addUserButton = findViewById(R.id.btn_add_user)

        addUserButton.setOnClickListener{
            showAddUserDialog()
        }

        setupRecyclerView()
        loadUserData()
    }

    private fun setupRecyclerView(){
        recyclerView.layoutManager = LinearLayoutManager(this)
    }

    private fun loadUserData(){
        val users = databaseHelper.getAllUsers()
        userAdapter =UserAdapter(users)
        recyclerView.adapter = userAdapter
    }

    private fun showAddUserDialog(){
        val builder = AlertDialog.Builder(this)
        builder.setTitle("Add User")

        val inflater = layoutInflater
        val dialogLayout = inflater.inflate(R.layout.dialog_add_user, null)
        builder.setView(dialogLayout)
```

```
        val etName = dialogLayout.findViewById<EditText>(R.id.et_name)
        val etAge = dialogLayout.findViewById<EditText>(R.id.et_age)

        builder.setPositiveButton("add") { dialog, _ ->
            val name = etName.text.toString()
            val age = etAge.text.toString().toIntOrNull()

            if (name.isNotEmpty() && age != null){
                databaseHelper.addUser(name, age)
                loadUserData()
                Toast.makeText(this, "User added", Toast.LENGTH_SHORT).show()
        } else {
            Toast.makeText(this, "Invalid input", Toast.LENGTH_SHORT).show()
            }
            dialog.dismiss()
        }
        builder.show()
    }
}
```

DatabaseHelper

```
package com.example.recyclerviewsqlitedemo

import android.content.ContentValues
import android.content.Context
import android.database.sqlite.SQLiteDatabase
import android.database.sqlite.SQLiteOpenHelper

class DatabaseHelper (context: Context) : SQLiteOpenHelper(context, DATABASE_NAME,
null, DATABASE_VERSION){
    companion object{
        private const val DATABASE_NAME = "UserDatabase"
        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_AGE = "age"
    }

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

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

    fun addUser(name:String, age: Int): Boolean
    {
        val db = this.writableDatabase
        val contentValues = ContentValues()
        contentValues.put(COLUMN_NAME, name)
        contentValues.put(COLUMN_AGE, age)
```

```
        val result = db.insert(TABLE_USERS, null, contentValues)
        db.close()
        return result != -1L
    }

    fun getAllUsers(): List<User> {
        val userList = ArrayList<User>()
        val db = this.readableDatabase
        val cursor = db.rawQuery("SELECT * FROM $TABLE_USERS", null)

        if (cursor.moveToFirst()) {
            do {
                val id = cursor.getInt(cursor.getColumnIndexOrThrow(COLUMN_ID))
                val name =
cursor.getString(cursor.getColumnIndexOrThrow(COLUMN_NAME))
                val age = cursor.getInt(cursor.getColumnIndexOrThrow(COLUMN_AGE))
                userList.add(User(id, name, age))
            } while (cursor.moveToNext())
        }
        cursor.close()
        db.close()
        return userList
    }


    fun updateUser(id: Int, name: String, age: Int): Boolean{
        val db = this.writableDatabase
        val contentValues = ContentValues()
        contentValues.put(COLUMN_NAME, name)
        contentValues.put(COLUMN_AGE, age)

        val result = db.update(TABLE_USERS, contentValues,
"$COLUMN_ID=?",arrayOf(id.toString()))
        db.close()
        return result > 0
    }

    fun deleteUser(id: Int): Boolean{
        val db = this.writableDatabase
        val result = db.delete(TABLE_USERS, "$COLUMN_ID=?", arrayOf(id.toString()))
        db.close()
        return result > 0
    }
}
```

User

```
package com.example.recyclerviewsqlitedemo

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

UserAdapter

```
package com.example.recyclerviewsqlitedemo

import android.view.LayoutInflater
import android.view.View
import android.view.ViewGroup
import android.widget.TextView
import androidx.recyclerview.widget.RecyclerView

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

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

    override fun onBindViewHolder(holder: UserViewHolder, position: Int)
{ // Fixed `Int` type
        val user = userList[position]
        holder.nameTextView.text = user.name
        holder.ageTextView.text = user.age.toString()
    }

    override fun getItemCount(): Int {
        return userList.size
    }

    class UserViewHolder(itemView: View) :
RecyclerView.ViewHolder(itemView) {
        val nameTextView: TextView = itemView.findViewById(R.id.tv_name)
        val ageTextView: TextView = itemView.findViewById(R.id.tv_age)
    }
}
```

Dialog_Add_user

```
<?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="wrap_content"
    android:orientation="vertical"
    android:padding="16dp">

<EditText
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:id="@+id/et_name"
    android:hint="Enter Name.."/>

<EditText
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:id="@+id/et_age"
    android:hint="Enter Age.."
    android:inputType="number"/>
```

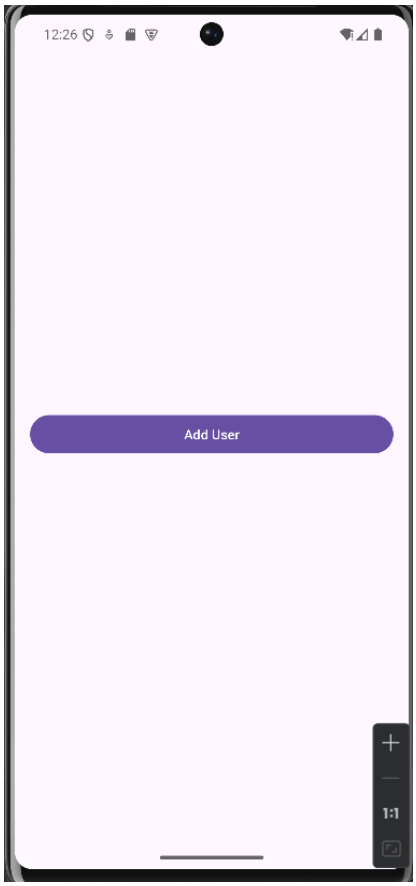
```
</LinearLayout>
```

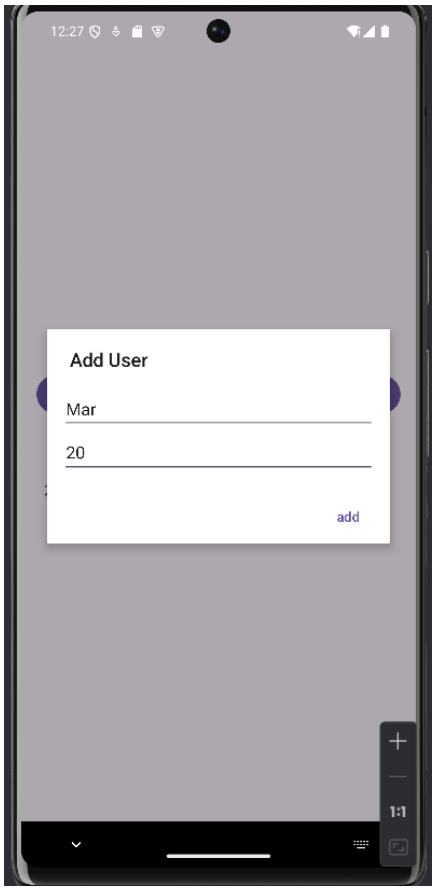
User_item

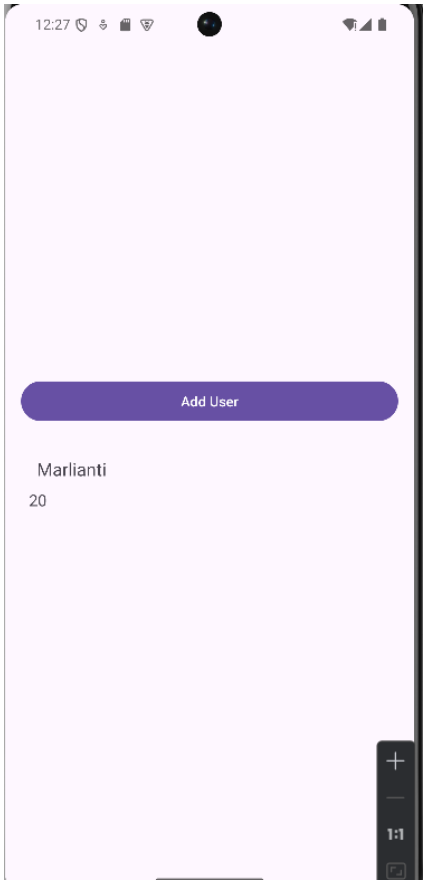
```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:padding="8dp">

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/tv_name"
        android:textSize="18dp"
        android:padding="8dp"
        android:text="Name"/>

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/tv_age"
        android:textSize="16dp"
        android:text="Age"/>

</LinearLayout>
```

Activity_Main

```
<?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"
    >

    <Button
        android:id="@+id/btn_add_user"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Add User" />

    <androidx.recyclerview.widget.RecyclerView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/recycler_view"
        android:paddingTop="16dp"
        />
</LinearLayout>
```


12:26
Add User
1:1


12:27
Add User
Mar
20
add
1:1


12:27
Add User
Marlianti
20
1:1

Task 4

MainActivity

```
package com.example.myfragment;

import android.os.Bundle;

import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.graphics.Insets;
import androidx.core.view.ViewCompat;
import androidx.core.view.WindowInsetsCompat;
import androidx.fragment.app.Fragment;
import androidx.fragment.app.FragmentTransaction;

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        EdgeToEdge.enable(this);
        setContentView(R.layout.activity_main);

        if (savedInstanceState == null){
            MyFragment myFragment = new MyFragment();
            FragmentTransaction transaction =
getSupportFragmentManager().beginTransaction();
            transaction.replace(R.id.fragment_container, myFragment);
            transaction.commit();

            Fragment2 fragment2 = new Fragment2();
            getSupportFragmentManager().beginTransaction()
                    .replace(R.id.fragment2_container, fragment2, "fragment2")
                    .commit();

        }
    }

    public void sendDataToFragment2(String data){
        Fragment2 fragment2 = (Fragment2)
getSupportFragmentManager().findFragmentByTag("fragment2");
        if (fragment2 != null){
            fragment2.updateData(data);
        }
    }
}
```

MyFragment

```
package com.example.myfragment;

import android.os.Bundle;
import android.util.Log;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.Button;
import com.example.myfragment.MainActivity;
```

```
import androidx.fragment.app.Fragment;

public class MyFragment extends Fragment {
    private static final String TAG = "MyFragment";

    @Override
    public void onCreate(Bundle savedInstanceState){
        super.onCreate(savedInstanceState);
        Log.d(TAG, "onCreate");
    }
    public View onCreateView(LayoutInflater inflater, ViewGroup
container, Bundle savedInstancesState){
        View view = inflater.inflate(R.layout.fragment_my,
container,false);

        Button sendButton = view.findViewById(R.id.button_send);
        sendButton.setOnClickListener(v ->{
            if(getActivity() instanceof MainActivity){
                ((MainActivity) getActivity()).sendDataToFragment2("Hello
from fragment1");
            }
        });

        return view;
    }

    public void onStart(){
        super.onStart();
        Log.d(TAG, "onStart");
    }

    @Override
    public void onResume(){
        super.onResume();
        Log.d(TAG, "onResume");
    }

    @Override
    public void onPause(){
        super.onPause();
        Log.d(TAG, "onPause");
    }

    @Override
    public void onStop(){
        super.onStop();
        Log.d(TAG, "onPause");
    }

    @Override
    public void onDestroy(){
        super.onDestroy();
        Log.d(TAG, "onDestroy");
    }

    @Override
    public void onDetach(){
        super.onDetach();
        Log.d(TAG, "onDetach");
```

```
    }
```

Fragment_my

```
<?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="16dp"
    android:gravity="center">

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/button_send"
        android:text="send data"
        android:textSize="18sp"/>

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/fragment_text"
        android:text="This is MyFragment"
        android:textSize="18sp"/>



</LinearLayout>
```

Fragment2

```
package com.example.myfragment;

import android.os.Bundle;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.TextView;

import androidx.fragment.app.Fragment;

public class Fragment2 extends Fragment {
    private TextView textView;

    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup
container, Bundle savedInstanceState){
        View view = inflater.inflate(R.layout.fragment2, container,
false);
        textView = view.findViewById(R.id.textView);
        return view;
    }
```

```
    //Method to update the TextView data
    public void updateData(String data){
        if (textView != null) {
            textView.setText(data);
        }
    }
}
```

Fragment2.xml

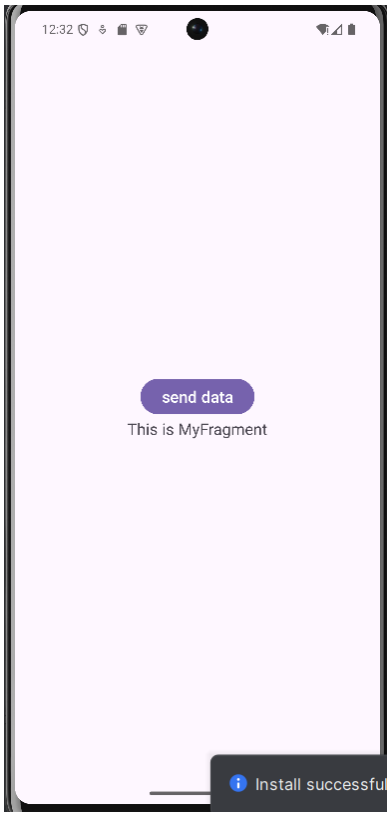
```
<?xml version="1.0" encoding="utf-8"?>


<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:padding="16dp"
    android:gravity="center">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/textView"
        android:textSize="18sp"
        android:layout_gravity="center"
        android:gravity="center"
        android:layout_marginTop="100dp"/>



</LinearLayout>
```

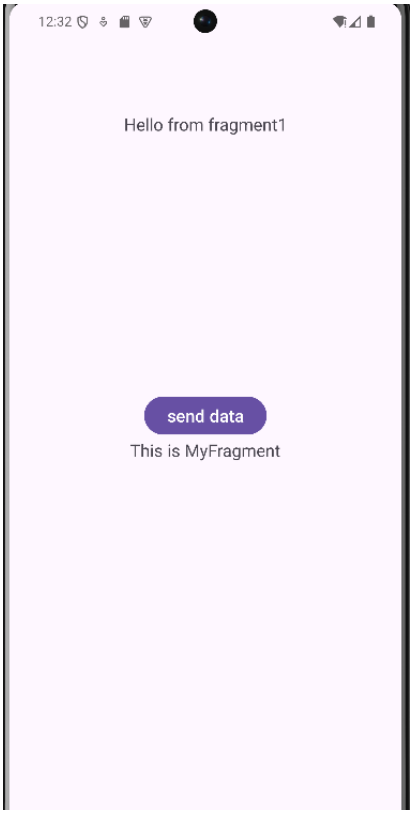
Activity_main

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_height="match_parent"
    android:layout_width="match_parent">

    <!--<fragment
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:id="@+id/fragment_container"
        android:name="com.example.myfragment.MyFragment"/> -->

    <FrameLayout
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:id="@+id/fragment_container"
       />

    <FrameLayout
        android:id="@+id/fragment2_container"
```

```
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        />

</RelativeLayout>
```

```
2024-11-18 01:37:08.365  4050-4050  MyFragment              com.example.myfragment          D  onCreate
2024-11-18 01:37:08.424  4050-4050  MyFragment              com.example.myfragment          D  onStart
2024-11-18 01:37:08.431  4050-4050  MyFragment              com.example.myfragment          D  onResume
2024-11-18 01:37:08.445  4050-4050  HWUI                    com.example.myfragment          W  Unknown dataspace 0
```





GITHUB LINK: https://github.com/Marlianti01/NATIVE-PROGRAMMING.git