Q1.Create a Application which shows Life Cycle of Activity.

<?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">

<TextView

Android:id="@+id/textViewLifecycle"

Android:layout_width="wrap_content"

Android:layout_height="wrap_content"
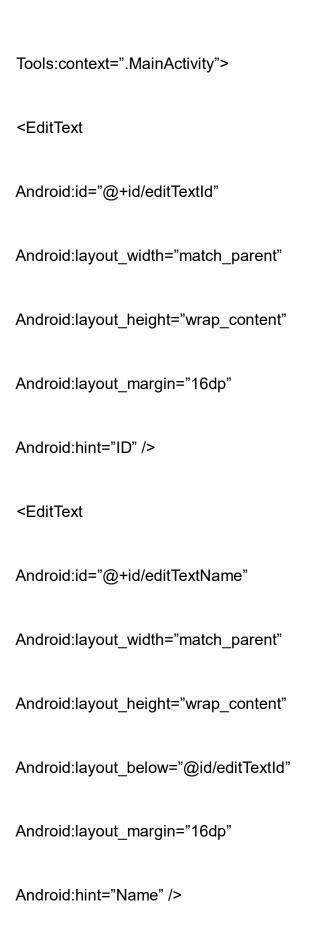
Android:layout_centerInParent="true"

Android:textSize="18sp"

Android:text="Activity Life Cycle"

Android:textColor="@android:color/black" />

</RelativeLayout>

Main.java

Package com.example.myapplication;

Import android.os.Bundle;

Import android.util.Log;
Import android.widget.Toast;

Import androidx.appcompat.app.AppCompatActivity;

Public class MainActivity extends AppCompatActivity {

 Private static final String TAG = "MainActivity";

 @Override

 Protected void onCreate(Bundle savedInstanceState) {

 Super.onCreate(savedInstanceState);

```
setContentView(R.layout.activity_main);

Log.d(TAG, "onCreate: ");

showToast("onCreate");

}

@Override

Protected void onStart() {

Super.onStart();

Log.d(TAG, "onStart: ");

showToast("onStart");

}

@Override

Protected void onResume() {
Super.onResume();

Log.d(TAG, "onResume: ");
```

```
showToast("onResume");

}

@Override

Protected void onPause() {

Super.onPause();

Log.d(TAG, "onPause: ");

showToast("onPause");

}

@Override

Protected void onStop() {

Super.onStop();

Log.d(TAG, "onStop: ");

showToast("onStop");
```

```java
    }

    @Override

    Protected void onDestroy() {

    Super.onDestroy();

    Log.d(TAG, "onDestroy: ");

    showToast("onDestroy");

    }

    @Override
    Protected void onRestart() {

    Super.onRestart();

    Log.d(TAG, "onRestart: ");

    showToast("onRestart");

    }

    Private void showToast(String message) {
```

```
Toast.makeText(this, message,

Toast.LENGTH_SHORT).show();

 }


}
```

Q2. Create table Customer (id, name, address, ph_no). Create
Application for performing the following operation on the table.
(Using SQLite database).
 I] Insert new customer details (At least 5 records).
Ii] Show all the customer details.


```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

Android:id="@+id/editTextId"

Android:layout_width="match_parent"

Android:layout_height="wrap_content"

Android:layout_margin="16dp"

Android:hint="ID" />

<EditText

Android:id="@+id/editTextName"

Android:layout_width="match_parent"

Android:layout_height="wrap_content"

Android:layout_below="@id/editTextId"

Android:layout_margin="16dp"

Android:hint="Name" />
```

```xml
<EditText

    Android:id="@+id/editTextAddress"

    Android:layout_width="match_parent"

    Android:layout_height="wrap_content"

    Android:layout_below="@id/editTextName"

    Android:layout_margin="16dp"

    Android:hint="Address" />

<EditText

    Android:id="@+id/editTextPhoneNumber"

    Android:layout_width="match_parent"

    Android:layout_height="wrap_content"

    Android:layout_below="@id/editTextAddress"

    Android:layout_margin="16dp"

    Android:hint="Phone Number" />
```

```
<TextView

    Android:id="@+id/textViewCustomerDetails"

    Android:layout_width="match_parent"

    Android:layout_height="wrap_content"

    Android:layout_below="@id/buttonShowAll"

    Android:layout_marginTop="16dp"

    Android:padding="16dp"

    Android:text=""

    Android:textSize="16sp" />
<Button

    Android:id="@+id/buttonInsert"

    Android:layout_width="wrap_content"

    Android:layout_height="wrap_content"

    Android:layout_below="@id/editTextPhoneNumber"
```

```
Android:layout_marginTop="16dp"

Android:layout_centerHorizontal="true"

Android:text="Insert"

Android:onClick="insertCustomer" />

<Button

Android:id="@+id/buttonShowAll"

Android:layout_width="wrap_content"

Android:layout_height="wrap_content"

Android:layout_below="@id/buttonInsert"

Android:layout_marginTop="16dp"

Android:layout_centerHorizontal="true"

Android:text="Show All"

Android:onClick="showAllCustomers" />
```

</RelativeLayout>

Main.java

```java
Package com.example.myapplication;

Import android.content.ContentValues;

Import android.database.Cursor;

Import android.database.sqlite.SQLiteDatabase;

Import android.os.Bundle;

Import android.view.View;

Import android.widget.EditText;

Import android.widget.TextView;

Import android.widget.Toast;

Import androidx.appcompat.app.AppCompatActivity;

Public class MainActivity extends AppCompatActivity {

 Private EditText editTextId, editTextName, editTextAddress,

editTextPhoneNumber;

 private TextView textViewCustomerDetails;
```

```java
private DatabaseHelper dbHelper;

@Override

Protected void onCreate(Bundle savedInstanceState) {

Super.onCreate(savedInstanceState);

setContentView(R.layout.activity_main);

editTextId = findViewById(R.id.editTextId);

editTextName = findViewById(R.id.editTextName);

editTextAddress = findViewById(R.id.editTextAddress);

editTextPhoneNumber =

findViewById(R.id.editTextPhoneNumber);

textViewCustomerDetails =

findViewById(R.id.textViewCustomerDetails);

dbHelper = new DatabaseHelper(this);
```

```java
    }

    Public void insertCustomer(View view) {

        String name = editTextName.getText().toString().trim();

        String address = editTextAddress.getText().toString().trim();

        String phoneNumber =

editTextPhoneNumber.getText().toString().trim();

        if (name.isEmpty() || address.isEmpty() ||

phoneNumber.isEmpty()) {

            Toast.makeText(this, "Please fill all fields",

Toast.LENGTH_SHORT).show();

            Return;

        }

        SQLiteDatabase db = dbHelper.getWritableDatabase();

        ContentValues values = new ContentValues();
```

```java
Values.put(DatabaseHelper.COLUMN_NAME, name);

Values.put(DatabaseHelper.COLUMN_ADDRESS, address);

Values.put(DatabaseHelper.COLUMN_PHONE_NUMBER,

phoneNumber);

long newRowId =

db.insert(DatabaseHelper.TABLE_CUSTOMER, null, values);

if (newRowId == -1) {

Toast.makeText(this, "Error inserting customer",

Toast.LENGTH_SHORT).show();

} else {

Toast.makeText(this, "Customer inserted with ID: " +

newRowId, Toast.LENGTH_SHORT).show();

}
```

```java
}

Public void showAllCustomers(View view) {

SQLiteDatabase db = dbHelper.getReadableDatabase();

String[] projection = {

DatabaseHelper.COLUMN_ID,

DatabaseHelper.COLUMN_NAME,

DatabaseHelper.COLUMN_ADDRESS,

DatabaseHelper.COLUMN_PHONE_NUMBER

};

Cursor cursor = db.query(

DatabaseHelper.TABLE_CUSTOMER,

Projection,

Null,

Null,
```

```
        Null,

        Null,
Null

        );

        StringBuilder customerDetails = new StringBuilder();

        While (cursor.moveToNext()) {

        Long id =

Cursor.getLong(cursor.getColumnIndexOrThrow(DatabaseHelper.

COLUMN_ID));

        String name =

Cursor.getString(cursor.getColumnIndexOrThrow(DatabaseHelper

.COLUMN_NAME));

        String address =

Cursor.getString(cursor.getColumnIndexOrThrow(DatabaseHelper
```

```java
.COLUMN_ADDRESS));

String phoneNumber =

Cursor.getString(cursor.getColumnIndexOrThrow(DatabaseHelper

.COLUMN_PHONE_NUMBER));

customerDetails.append(“ID: “).append(id).append(“,

Name: “).append(name)

.append(“, Address: “).append(address).append(“,

Phone Number: “).append(phoneNumber)

.append(“\n”);

}

Cursor.close();


textViewCustomerDetails.setText(customerDetails.toString());
```

```
        }


}
```

Databasehelper .Java

Package com.example.myapplication;

Import android.content.Context;

Import android.database.sqlite.SQLiteDatabase;

Import android.database.sqlite.SQLiteOpenHelper;

Public class DatabaseHelper extends SQLiteOpenHelper {

 Private static final String DATABASE_NAME = "customer.db";

 Private static final int DATABASE_VERSION = 1;

 // Table name and column names

 Public static final String TABLE_CUSTOMER = "customer";

 Public static final String COLUMN_ID = "id";

 Public static final String COLUMN_NAME = "name";

```
Public static final String COLUMN_ADDRESS = "address";

Public static final String COLUMN_PHONE_NUMBER =

"ph_no";

// Create table query

Private static final String SQL_CREATE_CUSTOMER_TABLE =

"CREATE TABLE " + TABLE_CUSTOMER + " (" +

COLUMN_ID + " INTEGER PRIMARY KEY

AUTOINCREMENT," +

COLUMN_NAME + " TEXT," +

COLUMN_ADDRESS + " TEXT," +

COLUMN_PHONE_NUMBER + " TEXT)";

Public DatabaseHelper(Context context) {

Super(context, DATABASE_NAME, null,

DATABASE_VERSION);
```

```java
    }

    @Override

    Public void onCreate(SQLiteDatabase db) {

    Db.execSQL(SQL_CREATE_CUSTOMER_TABLE);

    }

    @Override

    Public void onUpgrade(SQLiteDatabase db, int oldVersion, int

newVersion) {

    db.execSQL("DROP TABLE IF EXISTS " +

TABLE_CUSTOMER);

    onCreate(db);

    }

}
```