**1.Design a User Interface using relative layout to enter id, name, class, gender and other details of student.**

<?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"

android:padding="16dp"

tools:context=".MainActivity">

<TextView

android:id="@+id/textViewId"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="ID:"

android:layout\_marginTop="16dp"/>

<EditText

android:id="@+id/editTextId"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

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

android:layout\_marginTop="8dp"

android:inputType="number"/>

<TextView

android:id="@+id/textViewName"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Name:"

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

android:layout\_marginTop="16dp"/>

<EditText

android:id="@+id/editTextName"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

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

android:layout\_marginTop="8dp"

android:inputType="text"/>

<TextView

android:id="@+id/textViewClass"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Class:"

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

android:layout\_marginTop="16dp"/>

<EditText

android:id="@+id/editTextClass"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

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

android:layout\_marginTop="8dp"

android:inputType="text"/>

<TextView

android:id="@+id/textViewGender"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Gender:"

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

android:layout\_marginTop="16dp"/>

<Spinner

android:id="@+id/spinnerGender"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

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

android:layout\_marginTop="8dp"

android:entries="@array/gender\_array"/>

<Button

android:id="@+id/buttonSubmit"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

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

android:layout\_marginTop="16dp"

android:text="Submit"/>

</RelativeLayout>

<resources>

<string-array name="gender\_array">

<item>Male</item>

<item>Female</item>

<item>Other</item>

</string-array>

**2. Design a User Interface using constraint layout to enter book details including book**

id, name, isbn, price, etc.

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

<androidx.constraintlayout.widget.ConstraintLayout

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:padding="16dp"

tools:context=".MainActivity">

<TextView

android:id="@+id/textViewBookId"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Book ID:"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toTopOf="parent"

android:layout\_marginTop="16dp"/>

<EditText

android:id="@+id/editTextBookId"

android:layout\_width="0dp"

android:layout\_height="wrap\_content"

android:layout\_marginTop="8dp"

app:layout\_constraintStart\_toEndOf="@+id/textViewBookId"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintTop\_toTopOf="parent"

android:inputType="number"/>

<TextView

android:id="@+id/textViewBookName"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Book Name:"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toBottomOf="@+id/editTextBookId"

android:layout\_marginTop="16dp"/>

<EditText

android:id="@+id/editTextBookName"

android:layout\_width="0dp"

android:layout\_height="wrap\_content"

android:layout\_marginTop="8dp"

app:layout\_constraintStart\_toEndOf="@+id/textViewBookName"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintTop\_toBottomOf="@+id/editTextBookId"

android:inputType="text"/>

<TextView

android:id="@+id/textViewISBN"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="ISBN:"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toBottomOf="@+id/editTextBookName"

android:layout\_marginTop="16dp"/>

<EditText

android:id="@+id/editTextISBN"

android:layout\_width="0dp"

android:layout\_height="wrap\_content"

android:layout\_marginTop="8dp"

app:layout\_constraintStart\_toEndOf="@+id/textViewISBN"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintTop\_toBottomOf="@+id/editTextBookName"

android:inputType="text"/>

<TextView

android:id="@+id/textViewPrice"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Price:"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toBottomOf="@+id/editTextISBN"

android:layout\_marginTop="16dp"/>

<EditText

android:id="@+id/editTextPrice"

android:layout\_width="0dp"

android:layout\_height="wrap\_content"

android:layout\_marginTop="8dp"

app:layout\_constraintStart\_toEndOf="@+id/textViewPrice"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintTop\_toBottomOf="@+id/editTextISBN"

android:inputType="numberDecimal"/>

<Button

android:id="@+id/buttonSubmit"

android:layout\_width="0dp"

android:layout\_height="wrap\_content"

android:layout\_marginTop="16dp"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintTop\_toBottomOf="@+id/editTextPrice"

android:text="Submit"/>

</androidx.constraintlayout.widget.ConstraintLayout>

**3.Develop android application to transfer your symbol no. and name from one activity to another.**

public class MainActivity extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

EditText sno = findViewById(R.id.sno);

EditText snm = findViewById(R.id.snm);

Button btn = findViewById(R.id.btn);

btn.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View view) {

String symbolNo = sno.getText().toString();

String name = snm.getText().toString();

Intent intent = new Intent(MainActivity.this, SecondActivity.class);

intent.putExtra("symbolNo", symbolNo);

intent.putExtra("name", name);

startActivity(intent);

}

});

}

}

public class SecondActivity extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_second);

TextView no = findViewById(R.id.no);

TextView nm = findViewById(R.id.nm);

// Get data from Intent

Bundle extras = getIntent().getExtras();

if (extras != null) {

String symbolNo = extras.getString("symbolNo");

String name = extras.getString("name");

// Display data in TextViews

textViewSymbolNo.setText("Symbol No.: " + symbolNo);

textViewName.setText("Name: " + name);}}}

**4.Develop an android application to calculate simple interest. Your application should contain fields to input principal, rate, time and button for event handling. Calculate and display result in a TextView.**

public class MainActivity extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

EditText p = findViewById(R.id.p);

EditText r = findViewById(R.id.r);

EditText t = findViewById(R.id.t);

Button btn = findViewById(R.id.btn);

final TextView show = findViewById(R.id.display);

btn.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View view) {

// Get values from EditText

double principal = Double.parseDouble(p.getText().toString());

double rate = Double.parseDouble(r.getText().toString());

double time = Double.parseDouble(t.getText().toString());

// Calculate simple interest

double simpleInterest = (principal \* rate \* time) / 100;

// Display result in TextView

textViewResult.setText("Simple Interest: " + String.valueOf(simpleInterest));

}});}}

**5. Develop an android application to calculate perimeter of rectangle using fragment.**

main.xml

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

<RelativeLayout

<FrameLayout

android:id="@+id/fragmentContainer"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_above="@+id/btn"

android:layout\_marginTop="16dp"/>

<Button

android:id="@+id/btn"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:text="Calculate Perimeter"/>

</RelativeLayout>

fragment.xml

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

<RelativeLayout

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

android:layout\_width="match\_parent"

android:layout\_height="match\_parent">

<EditText

android:id="@+id/length"

/>

<EditText

android:id="@+id/width"

"/>

<TextView

android:id="@+id/result"

/>

</RelativeLayout>

(frg backend )

-----------------------

public class RectangleCalculatorFragment extends Fragment {

EditText l;

EditText w;

TextView r;

public RectangleCalculatorFragment() {

// Required empty public constructor

}

@Override

public View onCreateView(LayoutInflater inflater, ViewGroup container,

Bundle savedInstanceState) {

// Inflate the layout for this fragment

View view = inflater.inflate(R.layout.fragment , container, false);

l= view.findViewById(R.id.length);

w = view.findViewById(R.id.width);

r = view.findViewById(R.id.result);

Button Calculate = view.findViewById(R.id.btn);

Calculate.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

calculatePerimeter();

}

});

return view;

}

private void calculatePerimeter() {

try {

double length = Double.parseDouble(l.getText().toString());

double width = Double.parseDouble(w.getText().toString());

double perimeter = 2 \* (length + width);

textViewResult.setText("Perimeter: " + perimeter);

} catch (NumberFormatException e) {

r.setText("Please enter valid values.");

}

}

}

main (backend)

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public class MainActivity extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

final FragmentManager fragmentManager = getSupportFragmentManager();

final FragmentTransaction fragmentTransaction = fragmentManager.beginTransaction();

final RectangleCalculatorFragment fragment = new RectangleCalculatorFragment();

fragmentTransaction.add(R.id.fragmentContainer, fragment);

fragmentTransaction.commit();

Button btncalc = findViewById(R.id.btn);

btncalc.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

fragment.calculatePerimeter();

}

});

}

}

//--------------------------------------------------------------------------------

**6 .Develop an android application to insert id, name and address using SQLite.**

------------------------------------------------------------------------------

public class DatabaseHelper extends SQLiteOpenHelper {

private static final String DATABASE\_NAME = "mydatabase";

private static final int DATABASE\_VERSION = 1;

public static final String TABLE\_NAME = "mytable";

public static final String COLUMN\_ID = "id";

public static final String COLUMN\_NAME = "name";

public static final String COLUMN\_ADDRESS = "address";

private static final String TABLE\_CREATE =

"CREATE TABLE " + TABLE\_NAME + " (" +

COLUMN\_ID + " INTEGER PRIMARY KEY AUTOINCREMENT, " +

COLUMN\_NAME + " TEXT, " +

COLUMN\_ADDRESS + " TEXT);";

public DatabaseHelper(Context context) {

super(context, DATABASE\_NAME, null, DATABASE\_VERSION);

}

@Override

public void onCreate(SQLiteDatabase db) {

db.execSQL(TABLE\_CREATE);

}

@Override

public void onUpgrade(SQLiteDatabase db, int oldVersion, int newVersion) {

db.execSQL("DROP TABLE IF EXISTS " + TABLE\_NAME);

onCreate(db);

}

}