1. Create a database named **"subjects".**

 Create a table in it named **"subject_info".**

 Table structure will be: subject_info (sub_id, sub_title, sub_desc).   You can insert any subjects of M.Sc(IT)/M.Sc(ICT) like Android,   Advanced .NET, JWD etc.

 Note : Description can be anything relevant to the subject. Minimum 5 entries should be added to the database.

2. Create an activity for inserting subjects and save the entries in the above mentioned table.

3. Create a Recycler View and display all the subjects in it. Use custom adapter.

4. Clicking on the subject should redirect to an activity where the subject name and description of the subject is shown.

ANSWER➔

Activity_main.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<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:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    tools:context=".MainActivity">

    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="160dp"
        android:layout_weight="1"
        android:padding="5dp"
        android:text="WELCOME VIMLESH TO MY SUBJECT WORLD"
```
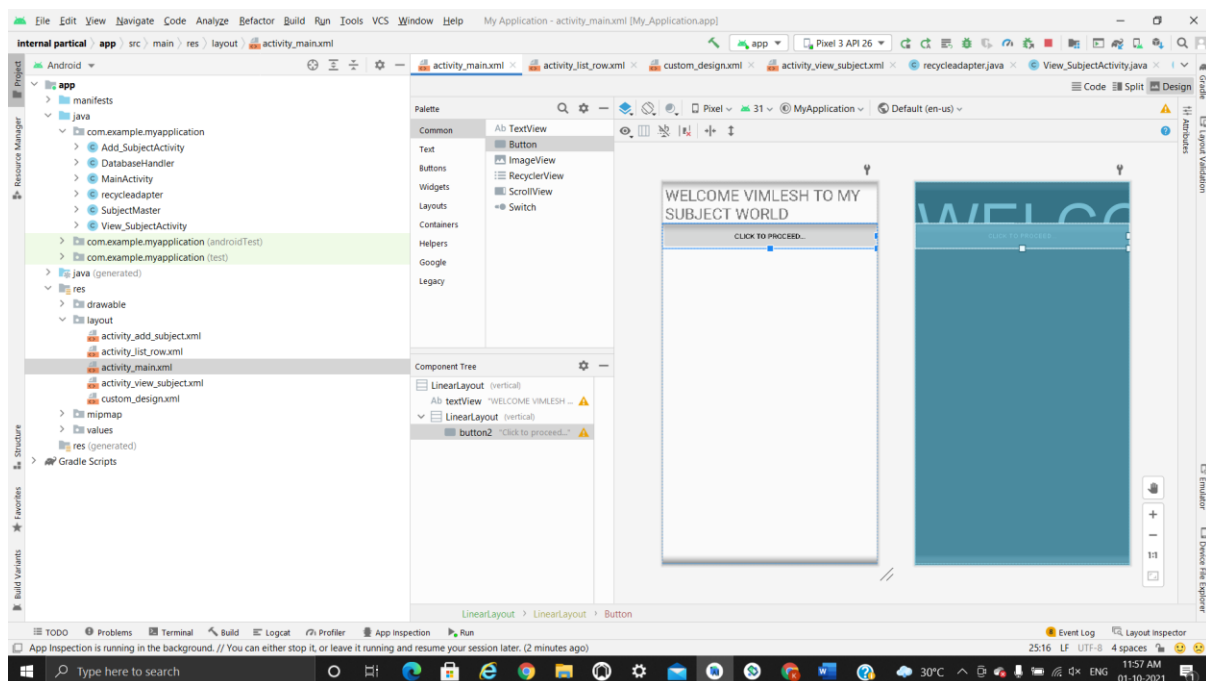
```xml
        android:textSize="30dp" />

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:layout_weight="1"
        android:orientation="vertical">

        <Button
            android:id="@+id/button2"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="Click to proceed..." />
    </LinearLayout>


</LinearLayout>
```


Main.java

```java
package com.example.myapplication;

//21_Vimlesh

import android.app.UiAutomation;
import android.content.Intent;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;

 public class MainActivity extends AppCompatActivity {
Button button2;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
```

```java
        setContentView(R.layout.activity_main);
        button2=(Button) findViewById(R.id.button2);

                button2 .setOnClickListener(new View.OnClickListener() {
                    @Override
                    public void onClick(View view) {
                        Intent i = new Intent(getApplicationContext(),
Add_SubjectActivity.class);
                startActivity(i);
                    }
                });
    }
}
```

SubjectMaster.java

```java
package com.example.myapplication;
//21_Vimlesh

public class SubjectMaster {

    public int Sub_Id;
    public String Sub_Title;
    public String Sub_desc;

    // empty Constructor
    public SubjectMaster()
    {

    }

    public SubjectMaster(int sub_Id, String sub_Title, String sub_desc) {
        this.Sub_Id = sub_Id;
        this.Sub_Title = sub_Title;
        this.Sub_desc = sub_desc;
    }

    public SubjectMaster(String sub_Title, String sub_desc) {
        this.Sub_Title = sub_Title;
        this.Sub_desc= sub_desc;

    }

    public int getSub_Id() {
        return Sub_Id;
    }

    public void setSub_Id(int sub_Id) {
        Sub_Id = sub_Id;
    }

    public String getSub_Title() {
        return Sub_Title;
    }

    public void setSub_Title(String sub_Title) {
        Sub_Title = sub_Title;
    }

    public String getSub_desc() {
```

```java
        return Sub_desc;
    }

    public void setSub_desc(String sub_desc) {
        Sub_desc = sub_desc;
    }
}
```

DatabaseHandler

```java
package com.example.myapplication;
//21_Vimlesh

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 String DATABASE_NAME = "subjects";
    private static final int VERSION = 3;
    private static final String TABLE_NAME = "subject_info";
    private static final String SubId = "Suid";
    private static final String SubTtile = "Sutitle";
    private static final String SubDesc = "Sudesc";
    public DatabaseHandler(Context context) {
        super(context, DATABASE_NAME, null, VERSION);

    }

    @Override
    public void onCreate(SQLiteDatabase DB) {
        String CREATE_SUBJECTMASTER_TABLE = "CREATE TABLE IF NOT EXISTS " +
TABLE_NAME + "(" +
                SubId + " INTEGER PRIMARY KEY AUTOINCREMENT," +
                SubTtile + " TEXT ," +
                SubDesc + " TEXT  )";

        DB.execSQL(CREATE_SUBJECTMASTER_TABLE);


    }

    @Override
    public void onUpgrade(SQLiteDatabase DB, int i, int i1) {
        DB.execSQL("DROP TABLE IF EXISTS " + TABLE_NAME);
        onCreate(DB);

    }

    void AddSubject(SubjectMaster sm) {

        SQLiteDatabase DB = this.getWritableDatabase();
        ContentValues cv = new ContentValues();
        cv.put(SubTtile, sm.getSub_Title());
        cv.put(SubDesc, sm.getSub_desc());
```

```java
        DB.insert(TABLE_NAME, null, cv);
        DB.close();

    }


    public List<SubjectMaster> getAllSubject() {
        List<SubjectMaster> stlist = new ArrayList<SubjectMaster>();
        String selectQuery = "SELECT * FROM " + TABLE_NAME;
        SQLiteDatabase DB = this.getWritableDatabase();
        Cursor cr = DB.rawQuery(selectQuery, null);

        if (cr.moveToFirst()) {
            do {
                SubjectMaster sm = new SubjectMaster();
                sm.setSub_Id(Integer.parseInt(cr.getString(0)));
                sm.setSub_Title(cr.getString(1));
                sm.setSub_desc(cr.getString(2));
                stlist.add(sm);
            }
            while (cr.moveToNext());
        }
        return stlist;

    }
}
```

Add subject activity.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<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:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".Add_SubjectActivity"
    android:layout_margin="10dp"
    android:orientation="vertical">

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:orientation="vertical">

        <LinearLayout
            android:layout_width="match_parent"
            android:layout_height="match_parent"
            android:layout_gravity="center"
            android:orientation="vertical">

            <TextView
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:layout_gravity="center"
                android:layout_marginBottom="30dp"
                android:text="Add Subjects"
                android:textSize="25dp" />
```

```xml
    </LinearLayout>


    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:layout_gravity="center"
        android:orientation="horizontal">

        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_marginLeft="20dp"
            android:text="SUBJECTNAME"

            android:textSize="20dp" />

        <EditText
            android:id="@+id/Sbname"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:textColor="@color/black" />

    </LinearLayout>

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:layout_gravity="center"
        android:orientation="horizontal">

        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_marginLeft="20dp"
            android:text="SUBJECTDESC"

            android:textSize="20dp" />

        <EditText
            android:id="@+id/Sdesc"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:textColor="@color/black" />

    </LinearLayout>

    <LinearLayout
        android:layout_width="wrap_content"
        android:layout_height="match_parent"
        android:layout_gravity="center"
        android:orientation="horizontal">

        <Button
            android:id="@+id/btn2"
            android:layout_width="394dp"
            android:layout_height="37dp"

            android:text="Add Subject"
```

```xml
            android:layout_margin="10dp"/>



    </LinearLayout>
    <LinearLayout
        android:layout_width="wrap_content"
        android:layout_height="match_parent"
        android:layout_gravity="center"
        android:orientation="horizontal">

        <Button
            android:id="@+id/btn3"
            android:layout_width="394dp"
            android:layout_height="37dp"

            android:text="View Records"
            android:layout_margin="10dp"/>



    </LinearLayout>

    <LinearLayout
        android:layout_width="wrap_content"
        android:layout_height="match_parent"
        android:layout_gravity="center"
        android:orientation="horizontal"/>



</LinearLayout>



</LinearLayout>
```
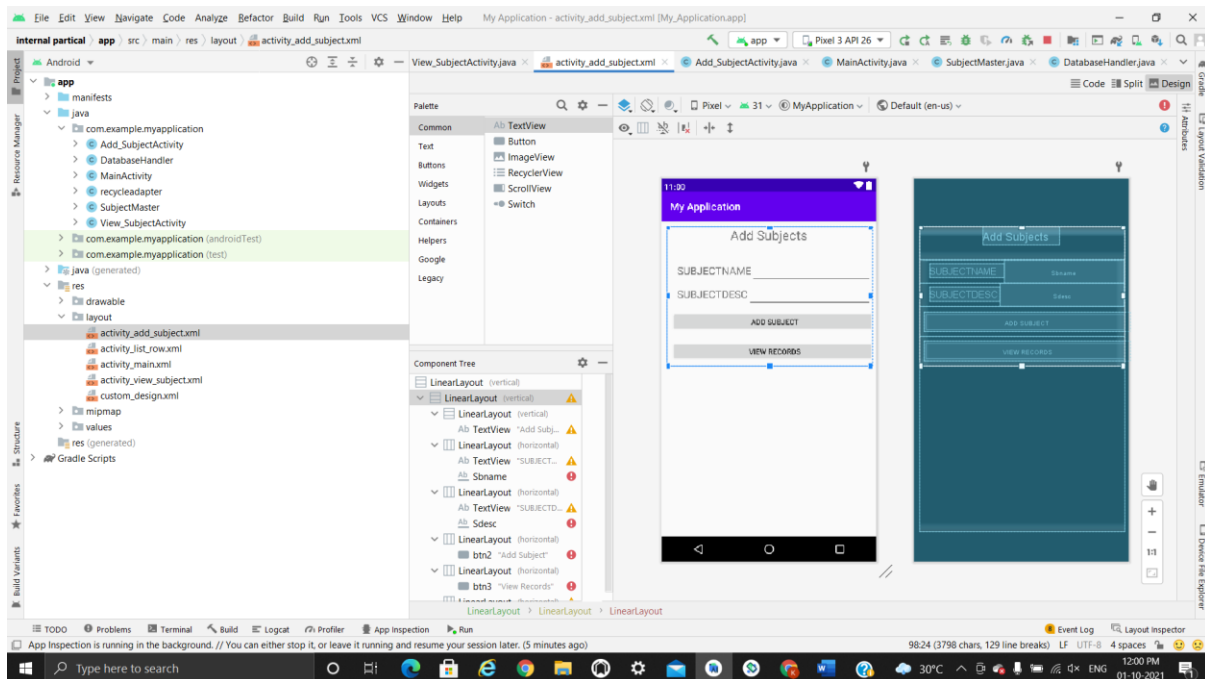
Add_Subject.java

```java
package com.example.myapplication;
//21_Vimlesh

import android.content.Intent;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.text.Editable;
import android.text.TextUtils;
import android.text.TextWatcher;
import android.util.Log;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;

import java.text.SimpleDateFormat;
import java.util.Date;

public class Add_SubjectActivity extends AppCompatActivity {

    EditText Sbname,Sdesc;
    Button btn2, btn3;
    DatabaseHandler DB = new DatabaseHandler(this);

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_add_subject);

        Sbname =  findViewById(R.id.Sbname);
```

```java
        Sdesc =  findViewById(R.id.Sdesc);

        btn2= findViewById(R.id.btn2);
        btn3=findViewById(R.id.btn3);
        btn2.setTag(-1);
        btn2.setOnClickListener(new View.OnClickListener()
        {
            @Override
            public void onClick(View v)
            {


                if ((int)btn2.getTag()==-1) {

                    DB.AddSubject(new
SubjectMaster(Sbname.getText().toString(), Sdesc.getText().toString()));
                    Toast.makeText(Add_SubjectActivity.this, "Record Add",
Toast.LENGTH_SHORT).show();
                    Log.v("Insert Data", "Subject Added Sucessfully..");
                }
            }
        });

        btn3.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Intent i= new
Intent(getApplicationContext(),View_SubjectActivity.class);
                startActivity(i);
            }
        });
    }


    }
```

activity list row.xml

```xml
//Formatting of datas
<?xml version="1.0" encoding="utf-8"?>
<TextView xmlns:android="http://schemas.android.com/apk/res/android"
    android:id="@+id/tvrow"
    android:layout_width="fill_parent"
    android:layout_height="fill_parent"
    android:padding="10dp"
    android:textColor="@color/purple_700"
    android:textSize="20sp"
    android:textStyle="bold"/>
```

Custom design.xml

```xml
//Database data will be visible here
<?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"
    xmlns:app="http://schemas.android.com/apk/res-auto">
```

```xml
<RelativeLayout

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

    <TextView
        android:id="@+id/lblname"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginLeft="10sp"
        android:text="Subject Name :"
        android:textColor="@color/black"
        android:textStyle="bold" />

    <TextView
        android:id="@+id/txtname"
        android:layout_toRightOf="@+id/lblname"
        android:textColor="@color/black"
        android:textStyle="bold"
        android:layout_marginLeft="10sp"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"/>

    <TextView
        android:id="@+id/lbldesc"
        android:layout_marginLeft="10sp"
        android:layout_below="@+id/txtname"
        android:textColor="@color/black"
        android:textStyle="bold"

        android:text="Description:"
        android:layout_marginTop="5sp"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"/>

    <TextView
        android:id="@+id/txtdesc"
        android:layout_below="@+id/txtname"
        android:textColor="@color/black"
        android:textStyle="bold"
        android:layout_marginTop="5sp"
        android:layout_marginLeft="10sp"
        android:layout_toRightOf="@+id/lbldesc"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"/>


</RelativeLayout>



</RelativeLayout>
```
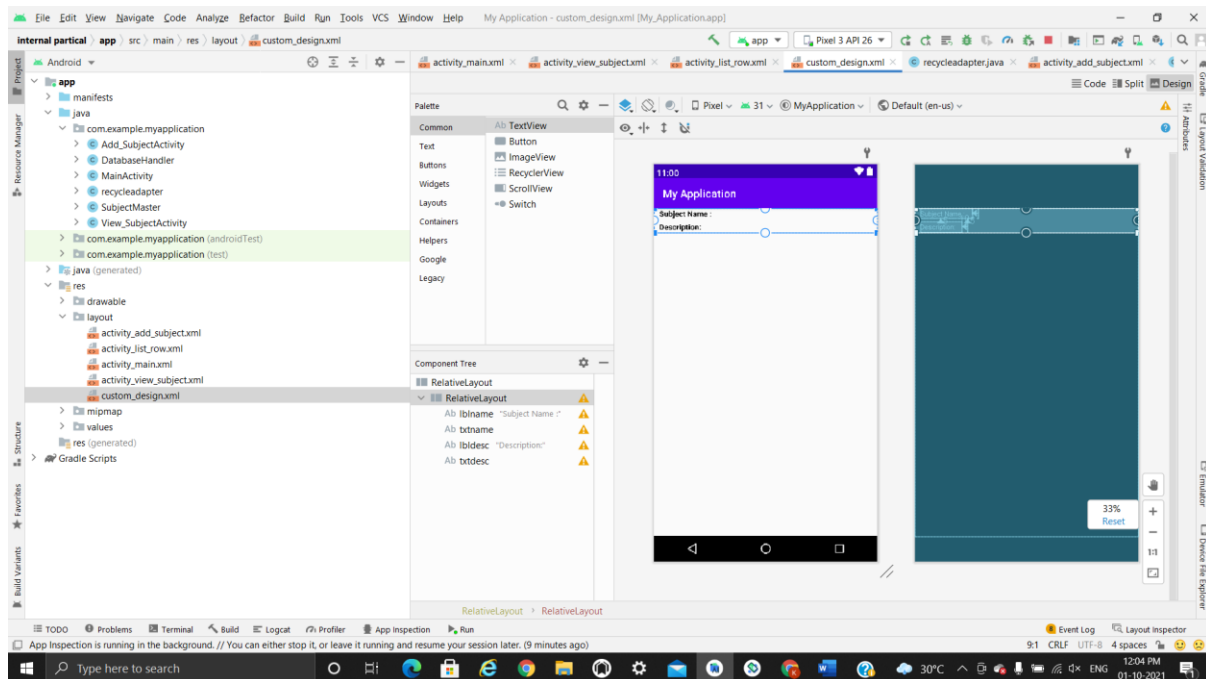
Recycleadapter.java

```java
package com.example.myapplication;
//21_Vimlesh

import android.content.Context;
import android.support.annotation.NonNull;
import android.support.v7.widget.RecyclerView;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.TextView;

import java.util.List;

public class recycleadapter extends
RecyclerView.Adapter<recycleadapter.MyviewHolder>
{

    Context context;
    int resource;
    List<SubjectMaster>sm;
    public recycleadapter(Context context, int resource,
List<SubjectMaster> sm) {

        this.context = context;
        this.resource = resource;
        this.sm = sm;

    }
    @NonNull
    @Override
    public MyviewHolder onCreateViewHolder(@NonNull ViewGroup parent, int
viewType)
```

```java
        {
            View view =
LayoutInflater.from(parent.getContext()).inflate(resource,parent,false);

            return new MyviewHolder(view);
        }

        @Override
        public void onBindViewHolder(@NonNull MyviewHolder holder, int i)
        {
            holder.txtname.setText(sm.get(i).getSub_Title());
            holder.txtdesc.setText(sm.get(i).getSub_desc());

        }

        @Override
        public int getItemCount() {
            return sm.size();
        }

        public class MyviewHolder extends RecyclerView.ViewHolder
        {
            TextView txtname , txtdesc ;

            public MyviewHolder(@NonNull View itemView)
            {

                super(itemView);
                txtname = itemView.findViewById(R.id.txtname);
                txtdesc = itemView.findViewById(R.id.txtdesc);

            }

//when click toast will appear and show name and dsec

public void onClick(View view) {
    int position = getAdapterPosition();
    Toast.makeText(context, txtname.getText().toString(),
Toast.LENGTH_SHORT).show();
    Toast.makeText(context, txtdesc.getText().toString(),
Toast.LENGTH_SHORT).show();
        }
    }
}
```

activity view subject.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<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:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".View_SubjectActivity">

    <android.support.v7.widget.RecyclerView
        android:id="@+id/rcv1"
        android:layout_width="409dp"
```
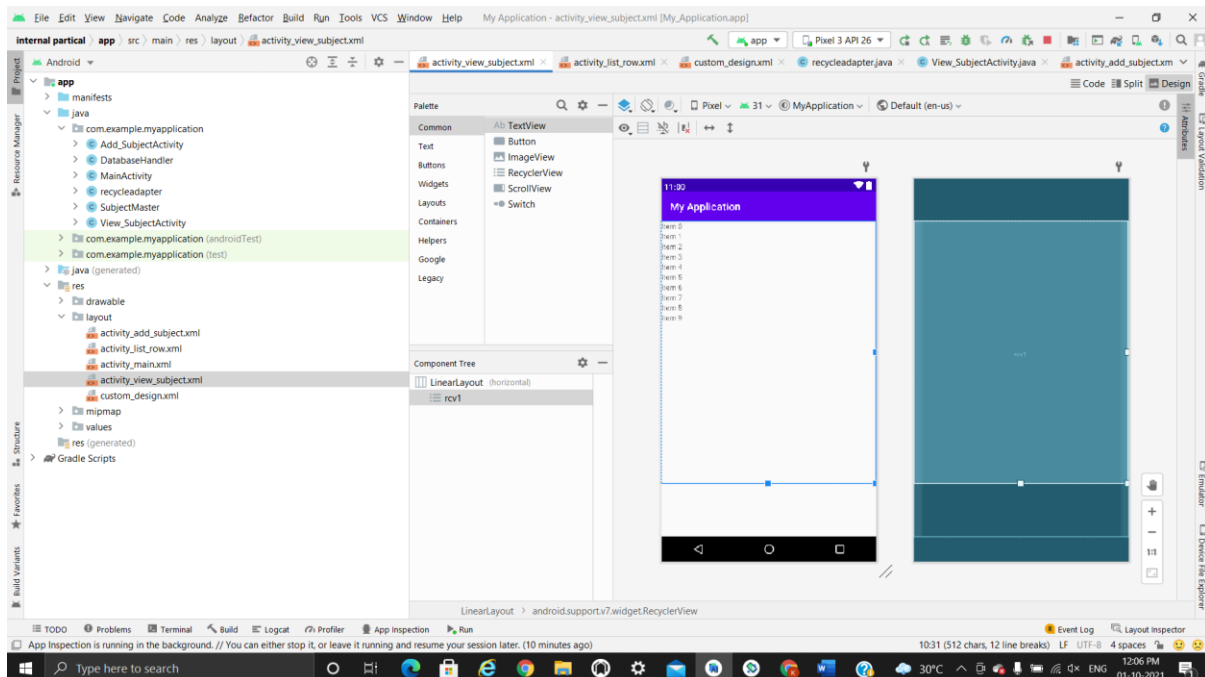
```
        android:layout_height="500dp" />
</LinearLayout>
```


View subject.java

```java
package com.example.myapplication;
//21_Vimlesh

import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.support.v7.widget.LinearLayoutManager;
import android.support.v7.widget.RecyclerView;

import java.util.ArrayList;
import java.util.List;

public class View_SubjectActivity extends AppCompatActivity {
    RecyclerView rcv1;
    List<SubjectMaster> sm;
    recycleadapter adapter;
    DatabaseHandler DB = new DatabaseHandler(this);

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_view_subject);

        setContentView(R.layout.activity_view_subject);
        rcv1 = findViewById(R.id.rcv1);
        sm = new ArrayList<SubjectMaster>();
        sm.addAll(DB.getAllSubject());
        adapter = new recycleadapter(this,R.layout.custom_design,sm);
        LinearLayoutManager manager = new
LinearLayoutManager(this,LinearLayoutManager.VERTICAL,false);
```

```
        rcv1.setLayoutManager(manager);
        rcv1.setAdapter(adapter);


    }
}
```

OUTPUT: