Fragments

In activity_main.xml file create three buttons and frame layout the code is given below.

```xml
<?xml version="1.0" encoding="utf-8"?>
<!-- res/layout/activity_main.xml -->
<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">

    <LinearLayout
        android:id="@+id/linearLayout"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentBottom="true"
        android:layout_centerHorizontal="true"

        android:layout_marginBottom="20dp">

        <Button
            android:id="@+id/button1"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Button 1" />

        <Button
            android:id="@+id/button2"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_below="@id/button1"
            android:text="Button 2" />

        <Button
            android:id="@+id/button3"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_below="@id/button2"
            android:text="Button 3" />
    </LinearLayout>

    <FrameLayout
        android:id="@+id/frameLayout"
        android:layout_width="match_parent"
        android:layout_height="600dp"
        android:layout_centerInParent="true"
        android:layout_marginLeft="20dp"
        android:layout_marginTop="403dp"
        android:layout_marginRight="20dp"
        android:layout_marginBottom="20dp" />
</RelativeLayout>
```
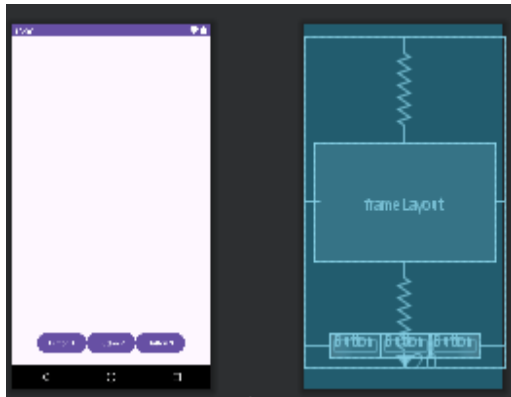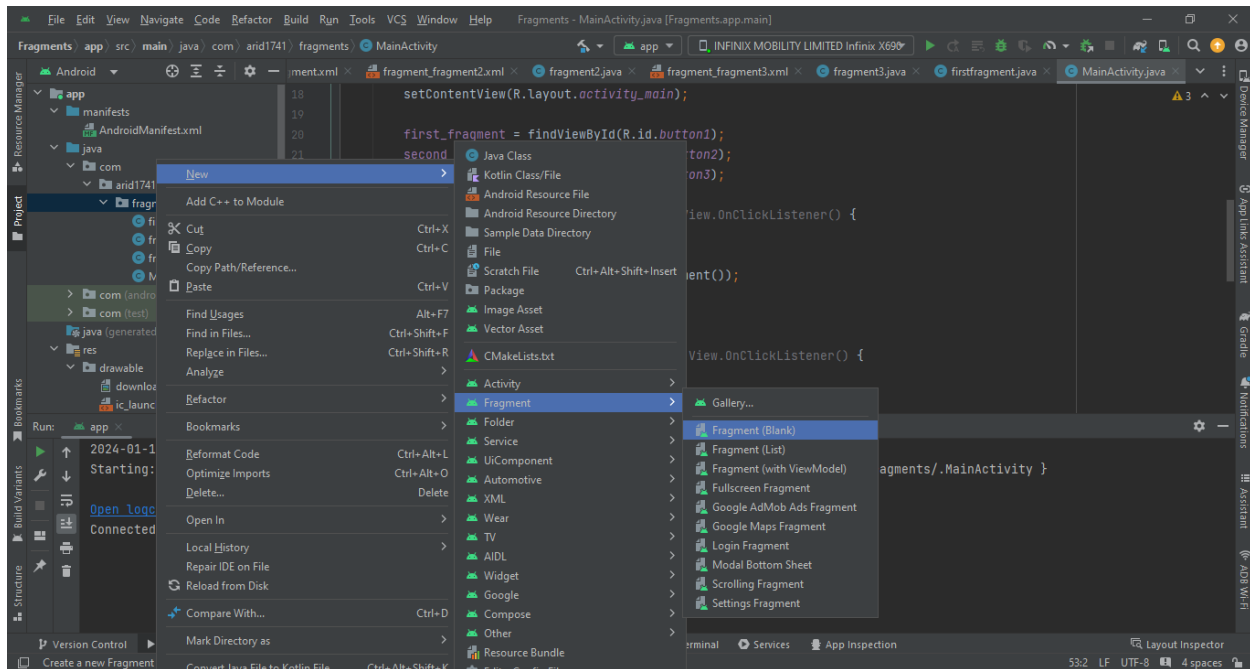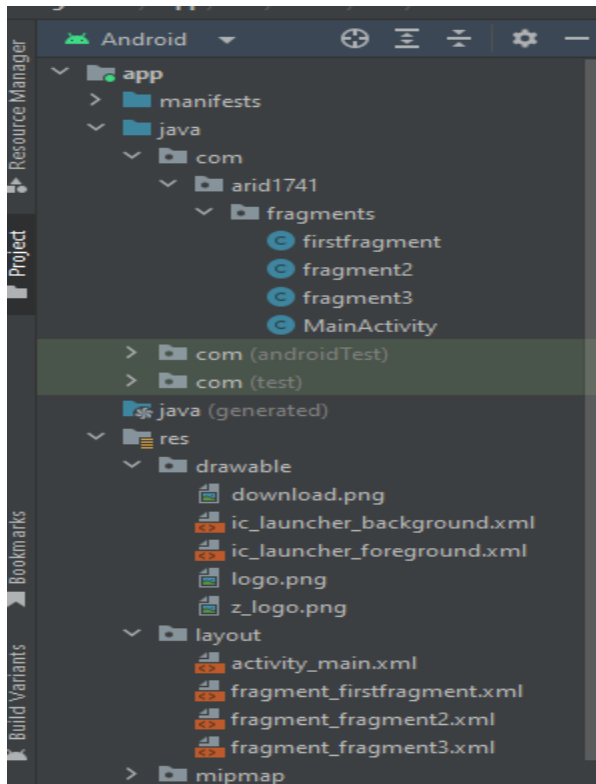
Output of this code in the Blueprint and Design

Create new Fragment and name the fragment repeat the process three times.

Overall all files created
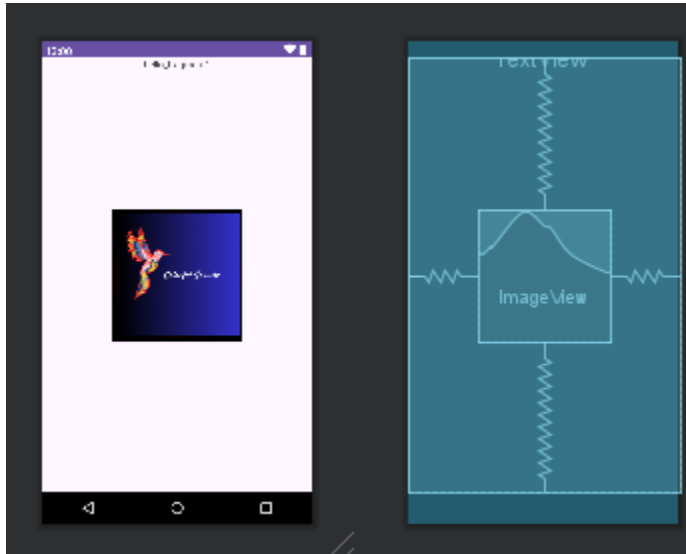

Now create the Design of first fragment

```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=".firstfragment">

    <!-- TODO: Update blank fragment layout -->
    <TextView
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:layout_centerHorizontal="true"
        android:textAlignment="center"
        android:text="hello_fragment1" />
    <ImageView
        android:layout_width="200sp"
        android:layout_height="200sp"
        android:layout_centerInParent="true"
        android:src="@drawable/logo"/>

</RelativeLayout>
```

Output of the first fragment xml code

Same process of other two fragments Design.

In firstfragment.java file apply this code only remove the extra one

```java
public class firstfragment extends Fragment {
    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container,
                             Bundle savedInstanceState) {
        // Inflate the layout for this fragment
        return inflater.inflate(R.layout.fragment_firstfragment, container,
false);

    }
}
```

For secondfragment.java file this code

```java
public class fragment2 extends Fragment {

    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container,
                             Bundle savedInstanceState) {
        // Inflate the layout for this fragment
        return inflater.inflate(R.layout.fragment_fragment2, container,
false);
    }
}
```

in thirdfragment.java this code only removes the extra one.

```java
public class fragment3 extends Fragment {

    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container,
                             Bundle savedInstanceState) {
        // Inflate the layout for this fragment
        return inflater.inflate(R.layout.fragment_fragment3, container,
false);
    }
}
```

Now for the main activity java file code for the replacement of fragments when click on button

```java
package com.arid1741.fragments;
import androidx.appcompat.app.AppCompatActivity;
import androidx.fragment.app.Fragment;
import androidx.fragment.app.FragmentManager;
import androidx.fragment.app.FragmentTransaction;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;

public class MainActivity extends AppCompatActivity {
    Button first_fragment, second_fragment, third_fragment;

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

        first_fragment = findViewById(R.id.button1);
        second_fragment = findViewById(R.id.button2);
        third_fragment = findViewById(R.id.button3);

        first_fragment.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                replace_fragment(new firstfragment());
            }
        });

        second_fragment.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                replace_fragment(new fragment2());
            }
        });
```

```java
        third_fragment.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                replace_fragment(new fragment3());
            }
        });
    }
    private void replace_fragment(Fragment f){
        FragmentManager f_m = getSupportFragmentManager();
        FragmentTransaction f_t = f_m.beginTransaction();
        f_t.replace(R.id.frameLayout,f);
        f_t.commit();
    }
}
```

DialogBox

```java
public class MainActivity extends AppCompatActivity {

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

        Button show = findViewById(R.id.clickme);
        AlertDialog.Builder builder = new AlertDialog.Builder(this);

        show.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {

                builder.setMessage("I am Message")
                        .setTitle("I am title")
                        .setCancelable(true)
                        .setPositiveButton("yes", new
DialogInterface.OnClickListener() {
                            @Override
                            public void onClick(DialogInterface dialog, int
which) {

                                finish();
                            }
                        })
                        .setNegativeButton("no", new
DialogInterface.OnClickListener() {
                            @Override
                            public void onClick(DialogInterface dialog, int
which) {

                                dialog.cancel();
                            }
                        }).show();

//              AlertDialog dialog = builder.create();
            }
        });
    }
}
```
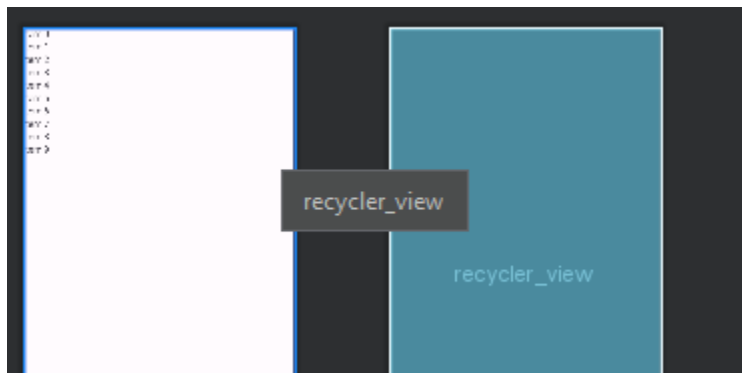
Recycler View

In activity_main.xml create a recycler view

```xml
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

  <androidx.recyclerview.widget.RecyclerView
      android:layout_width="match_parent"
      android:layout_height="match_parent"
      android:id="@+id/recycler_view"
    />

  </androidx.constraintlayout.widget.ConstraintLayout>
```

Output of this

In itemview.xml create card view or make relative layout to display the content

```xml
<?xml version="1.0" encoding="utf-8"?>
<androidx.cardview.widget.CardView
xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    android:layout_marginTop="18dp"
    android:layout_marginLeft="20dp"
    android:layout_marginRight="20dp"
    android:background="#72A0B5"
    app:cardCornerRadius="20dp"
    app:cardElevation="0dp"
    android:layout_height="wrap_content">

    <ImageView
        android:layout_width="48dp"
        android:layout_height="48dp"
        android:id="@+id/myimage"
        android:layout_marginLeft="10dp"
        android:layout_marginRight="18dp"
```

```xml
        android:layout_centerVertical="true"
        android:scaleType="centerCrop"

        />

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/name"
        android:layout_toEndOf="@+id/myimage"
        android:textColor="@color/black"
        android:layout_centerHorizontal="true"
        android:textAlignment="center"
        android:textSize="28dp"
        android:text="Name"/>

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/email"
        android:layout_below="@+id/name"
        android:layout_marginTop="33sp"
        android:layout_centerHorizontal="true"
        android:textAlignment="center"
        android:layout_toEndOf="@+id/myimage"
        android:textColor="@color/black"
        android:text="email@email.com"/>


</androidx.cardview.widget.CardView>
```
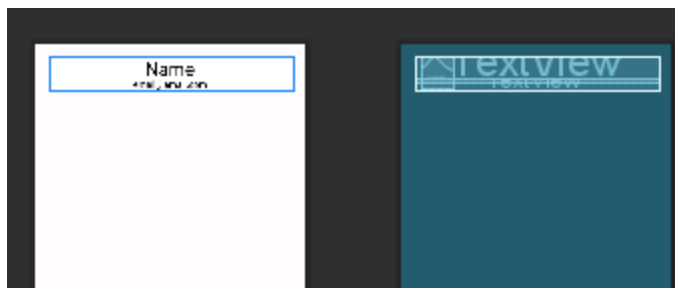
Output of this

Now create a simpe java class named "MyviewHolder " which inherit or extend the RecyclerView.ViewHolder.

```java
import androidx.recyclerview.widget.RecyclerView;

public class MyViewHolder extends RecyclerView.ViewHolder {

    ImageView imageView;
    TextView nameview,emailview;

    public MyViewHolder(@NonNull View itemView) {
        super(itemView);
        imageView=itemView.findViewById(R.id.myimage);
        nameview=itemView.findViewById(R.id.name);
        emailview=itemView.findViewById(R.id.email);
    }
}
```

Then create new java class named item. This class have attributes, get and set method related to our card view.

```java
public class item {
    String name;
    String email;
    int image;

    public item(String name, String email, int image) {
        this.name = name;
        this.email = email;
        this.image = image;
    }

    public String getName() {
        return name;
    }

    public void setName(String name) {
        this.name = name;
    }

    public String getEmail() {
        return email;
    }

    public void setEmail(String email) {
        this.email = email;
    }

    public int getImage() {
        return image;
    }

    public void setImage(int image) {
```

```
            this.image = image;}
}
```

create "MyAdapter" class and implement the following code

```java
public class MyAdapter extends RecyclerView.Adapter<MyViewHolder> {

    Context context;
    List<item> items;

    public MyAdapter(Context context, List<item> items) {
        this.context = context;
        this.items = items;
    }

    @NonNull
    @Override
    public MyViewHolder onCreateViewHolder(@NonNull ViewGroup parent, int
viewType) {
        LayoutInflater inflater = LayoutInflater.from(context);
        View view = inflater.inflate(R.layout.item_view, parent,false);
        return new MyViewHolder(view);
     // return new
MyViewHolder(LayoutInflater.from(context).inflate(R.layout.item_view,parent,f
alse));
    }

    @Override
    public void onBindViewHolder(@NonNull MyViewHolder holder, int position)
{
        holder.nameview.setText(items.get(position).getName());
        holder.emailview.setText(items.get(position).getEmail());
        holder.imageView.setImageResource(items.get(position).getImage());

    }

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

In mainactivity.java create and Arraylist we create list with dummy data. If you are fetching data from data then create a array list of that data but in case we follow

```java
public class MainActivity extends AppCompatActivity {

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

        RecyclerView recyclerView=findViewById(R.id.recycler_view);

        List<item> items=new ArrayList<item>();
        items.add(new item("Jhon cena","email@gmail.com",R.drawable.a));
```

```
        items.add(new item("Jhon wick","email@gmail.com",R.drawable.b));
        items.add(new item("Jhon imaz","email@gmail.com",R.drawable.c));
        items.add(new item("Jhon cena","email@gmail.com",R.drawable.a));
        items.add(new item("Jhon cena","email@gmail.com",R.drawable.b));
        items.add(new item("Jhon cena","email@gmail.com",R.drawable.c));
        items.add(new item("Jhon cena","email@gmail.com",R.drawable.a));
        items.add(new item("Jhon cena","email@gmail.com",R.drawable.b));
        items.add(new item("Jhon cena","email@gmail.com",R.drawable.c));
        items.add(new item("Jhon cena","email@gmail.com",R.drawable.a));
        items.add(new item("Jhon cena","email@gmail.com",R.drawable.b));
        items.add(new item("Jhon cena","email@gmail.com",R.drawable.c));
        items.add(new item("Jhon cena","email@gmail.com",R.drawable.a));
        items.add(new item("Jhon wick","email@gmail.com",R.drawable.b));
        items.add(new item("Jhon imaz","email@gmail.com",R.drawable.c));
        items.add(new item("Jhon cena","email@gmail.com",R.drawable.a));
        items.add(new item("Jhon wick","email@gmail.com",R.drawable.b));
        items.add(new item("Jhon imaz","email@gmail.com",R.drawable.c));


        recyclerView.setAdapter(new
MyAdapter(getApplicationContext(),items));
        recyclerView.setLayoutManager(new LinearLayoutManager(this));
    }
}
```

Output of running the application

Firebase File store

In activity_main.xml file

```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=".MainActivity"
    android:orientation="vertical"
    android:layout_gravity="center"
    android:padding="40dp"
    >

    <EditText
        android:layout_width="match_parent"
        android:layout_height="60dp"
        android:id="@+id/name"
        android:hint="Enter Name"
        android:textSize="15dp"
        android:textAlignment="center"
        android:layout_marginTop="40dp"
        />

    <EditText
        android:layout_width="match_parent"
        android:layout_height="60dp"
        android:id="@+id/age"
        android:hint="Enter Age"
        android:textSize="15dp"
        android:textAlignment="center"
        android:layout_marginTop="40dp"
        />



<EditText
        android:layout_width="match_parent"
        android:layout_height="60dp"
        android:id="@+id/email"
        android:hint="Enter Email"
        android:textSize="15dp"
        android:textAlignment="center"
        android:layout_marginTop="40dp"
        />

    <Button
        android:layout_width="match_parent"
        android:layout_height="60dp"
        android:id="@+id/add1"
        android:text="Add"
        android:textSize="15dp"
        android:textAlignment="center"
        android:layout_marginTop="60dp"
```
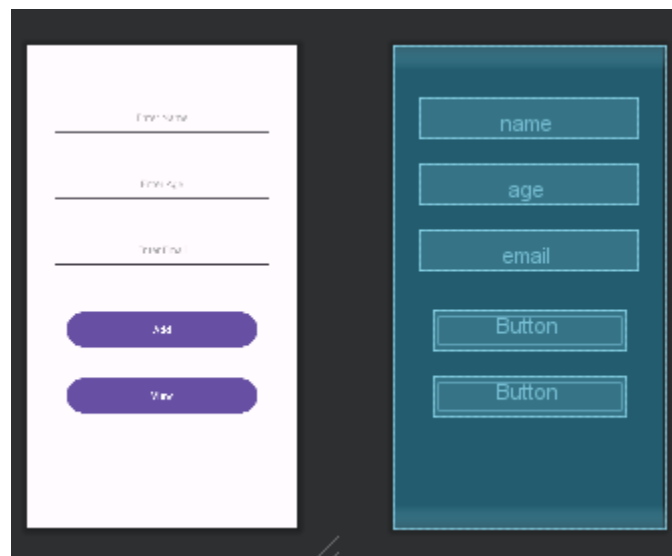
```
        android:layout_marginRight="20dp"
        android:layout_marginLeft="20dp"
        />

    <Button
        android:layout_width="match_parent"
        android:layout_height="60dp"
        android:id="@+id/view1"
        android:text="View"
        android:textSize="15dp"
        android:textAlignment="center"
        android:layout_marginTop="40dp"
        android:layout_marginRight="20dp"
        android:layout_marginLeft="20dp"
        />

</LinearLayout>
```

Output of this code

Insert Data in Firebase File store database when user click on add button in Activity.

```java
import com.google.android.gms.tasks.OnCompleteListener;
import com.google.android.gms.tasks.Task;
import com.google.firebase.firestore.DocumentReference;
import com.google.firebase.firestore.FirebaseFirestore;
import java.util.HashMap;
import java.util.Map;
public class MainActivity extends AppCompatActivity {
    EditText name,age,email;
    Button btn1,btn2;
    FirebaseFirestore dbroot;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        name = findViewById(R.id.name);
```

```java
        age = findViewById(R.id.age);
        email =findViewById(R.id.email);
        btn1 = findViewById(R.id.add1);
        btn2 = findViewById(R.id.view1);
        dbroot = FirebaseFirestore.getInstance();
        btn1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                insertdata();
            }
        });
        btn2.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Intent intent = new
Intent(MainActivity.this,viewdataActivity.class);
                startActivity(intent);
            }
        });
    }
    public void insertdata(){
        Map<String,String> items = new HashMap<>();
        items.put("name" , name.getText().toString().trim());
        items.put("age" ,age.getText().toString().trim());
        items.put("email" , email.getText().toString().trim());
        dbroot.collection("user").add(items)
                    .addOnCompleteListener(new
OnCompleteListener<DocumentReference>() {
                        @Override
                        public void onComplete(@NonNull
Task<DocumentReference> task) {
                            Toast.makeText(MainActivity.this,"insert data
Sucessful", Toast.LENGTH_LONG).show();
                        }
                    });
    }
}
```

Fetch data from firebase file store by document id

```java
import com.google.android.gms.tasks.OnFailureListener;
import com.google.android.gms.tasks.OnSuccessListener;
import com.google.firebase.firestore.DocumentReference;
import com.google.firebase.firestore.DocumentSnapshot;
import com.google.firebase.firestore.FirebaseFirestore;

public class viewdataActivity extends AppCompatActivity {

    TextView name,age,email;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_viewdata);
        name = findViewById(R.id.textview_name);
        age = findViewById(R.id.textview_age);
```
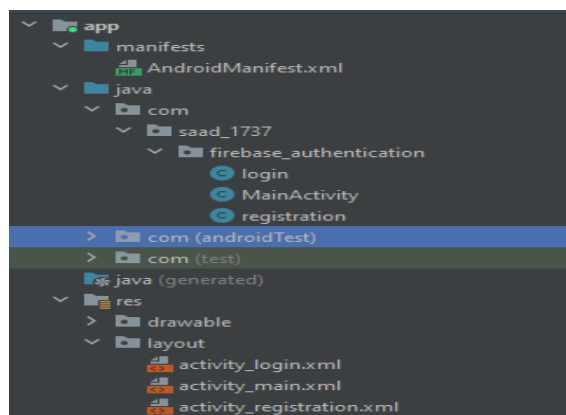
```
        email = findViewById(R.id.textview_email);
        fetch_data();
    }
    public void fetch_data(){
        DocumentReference document =
FirebaseFirestore.getInstance().collection("user").document("G40MQXfGa8YZQTiu
hWxC");
        document.get().addOnSuccessListener(new
OnSuccessListener<DocumentSnapshot>() {
            @Override
            public void onSuccess(DocumentSnapshot documentSnapshot) {
                if(documentSnapshot.exists()){
                    age.setText(documentSnapshot.getString("age"));
                    email.setText(documentSnapshot.getString("email"));
                    name.setText(documentSnapshot.getString("name"));
                }
                else{

                    Toast.makeText(getApplicationContext(), "Failed to fetch
data", Toast.LENGTH_LONG).show();

                }

            }
        })
                .addOnFailureListener(new OnFailureListener() {
            @Override
            public void onFailure(@NonNull Exception e) {

                Toast.makeText(getApplicationContext(), "Failed to fetch
data", Toast.LENGTH_LONG).show();

            }
        });
    }
}
```

Firebase Authentication using custom email and password

Create three activities MainActivity, login, registration

In activity_login.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=".login">

    <TextView
        android:text="Log in "
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:textSize="40sp"
        android:textAlignment="center"
        android:layout_marginTop="100sp"/>

    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginLeft="35sp"
        android:layout_marginRight="35sp"
        android:layout_marginTop="100sp"
        android:hint="Enter Your Email"
        android:textAlignment="center"
        android:textSize="20sp"
        android:id="@+id/Email"
        />
    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginLeft="35sp"
        android:layout_marginRight="35sp"
        android:layout_marginTop="30sp"
        android:hint="Enter Your Password"
        android:textAlignment="center"
        android:textSize="20sp"
        android:id="@+id/Password"
        />
    <ProgressBar
        android:id="@+id/progress_bar"
        android:layout_width="wrap_content"
        android:layout_marginTop="40dp"
        android:layout_height="wrap_content"
        android:visibility="gone"
        android:layout_gravity="center"/>
    <Button
        android:layout_width="200sp"
        android:layout_gravity="center"
        android:layout_height="60sp"
        android:layout_marginLeft="35sp"
        android:layout_marginRight="35sp"
        android:layout_marginTop="50sp"
        android:text="Log in"
```
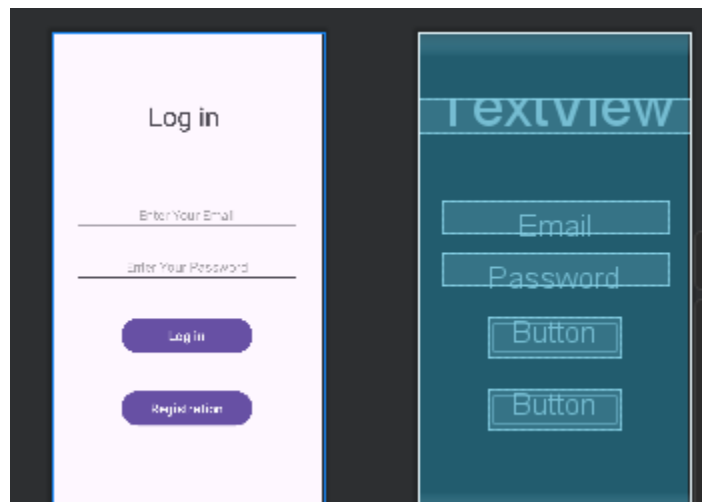
```
        android:textAlignment="center"
        android:textSize="20sp"
        android:id="@+id/login"
        />
    <Button
        android:layout_width="200sp"
        android:layout_gravity="center"
        android:layout_height="60sp"
        android:layout_marginLeft="35sp"
        android:layout_marginRight="35sp"
        android:layout_marginTop="50sp"
        android:text="Registration"
        android:textAlignment="center"
        android:textSize="20sp"
        android:id="@+id/regis"
        />

</LinearLayout>
```

Output of this code is

In activity_registration.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=".registration"
    android:orientation="vertical">

    <TextView
        android:text="Registration "
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:textSize="40sp"
        android:textAlignment="center"
        android:layout_marginTop="100sp"/>
```

```xml
    <EditText
        android:id="@+id/Email1"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginLeft="35sp"
        android:layout_marginTop="100sp"
        android:layout_marginRight="35sp"
        android:hint="Enter Your Email"
        android:textAlignment="center"
        android:textSize="20sp" />

    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginLeft="35sp"
        android:layout_marginRight="35sp"
        android:layout_marginTop="30sp"
        android:hint="Enter Your Password"
        android:textAlignment="center"
        android:textSize="20sp"
        android:id="@+id/Password1"
        />
    <ProgressBar
        android:id="@+id/progress_bar"
        android:layout_width="wrap_content"
        android:layout_marginTop="40dp"
        android:layout_height="wrap_content"
        android:visibility="gone"
        android:layout_gravity="center"/>
    <Button
        android:layout_width="200sp"
        android:layout_gravity="center"
        android:layout_height="60sp"
        android:layout_marginLeft="35sp"
        android:layout_marginRight="35sp"
        android:layout_marginTop="50sp"
        android:text="register"
        android:textAlignment="center"
        android:textSize="20sp"
        android:id="@+id/reg"
        />
    <Button
        android:layout_width="200sp"
        android:layout_gravity="center"
        android:layout_height="60sp"
        android:layout_marginLeft="35sp"
        android:layout_marginRight="35sp"
        android:layout_marginTop="50sp"
        android:text="login"
        android:textAlignment="center"
        android:textSize="20sp"
        android:id="@+id/log"
        />


</LinearLayout>
```
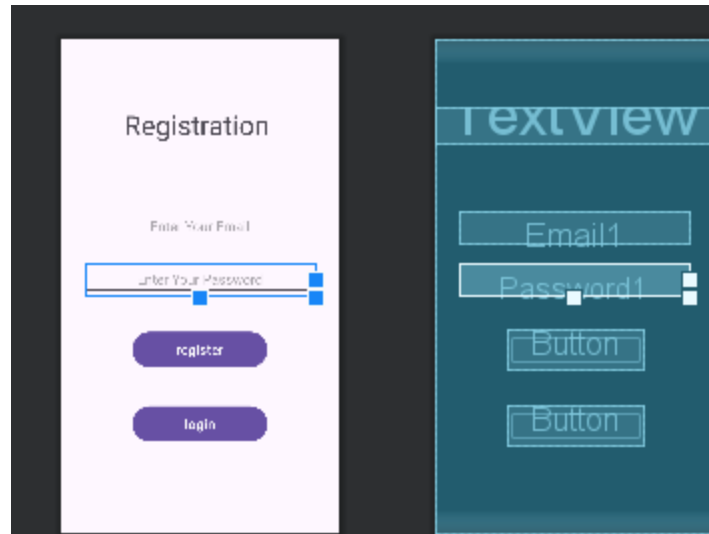
In activity_main.xml file

```xml
<?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"
    tools:context=".MainActivity">

    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Hello World! Login Sucess"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <Button
        android:id="@+id/logout"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Logout"

        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/textView" />

</androidx.constraintlayout.widget.ConstraintLayout>
```
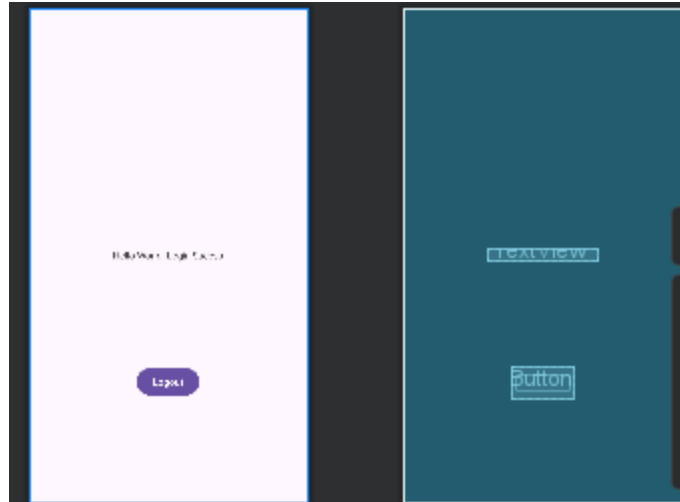
Output of this

In registration.java file apply this code

```java
package com.saad_1737.firebase_authentication;

import androidx.annotation.NonNull;
import androidx.appcompat.app.AppCompatActivity;

import android.annotation.SuppressLint;
import android.content.Intent;
import android.os.Bundle;
import android.text.TextUtils;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.ProgressBar;
import android.widget.Toast;

import com.google.android.gms.tasks.OnCompleteListener;
import com.google.android.gms.tasks.Task;
import com.google.firebase.auth.AuthResult;
import com.google.firebase.auth.FirebaseAuth;
import com.google.firebase.auth.FirebaseUser;

public class registration extends AppCompatActivity {
    Button reg, log_in;
    EditText edit_email,edit_pass;
    FirebaseAuth mAuth;
    ProgressBar progressBar;

    @SuppressLint("MissingInflatedId")
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_registration);

        reg = findViewById(R.id.reg);
        log_in = findViewById(R.id.log);
        edit_email = findViewById(R.id.Email1);
        edit_pass = findViewById(R.id.Password1);
```

```java
        mAuth = FirebaseAuth.getInstance();
        progressBar = findViewById(R.id.progress_bar);

        log_in.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                startActivity(new Intent(getApplicationContext(),
login.class));
                finish();
            }
        });

        reg.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                progressBar.setVisibility(View.VISIBLE);
                String email, password;
                email = String.valueOf(edit_email.getText());
                password = String.valueOf(edit_pass.getText());

                if(TextUtils.isEmpty(email)){
                    Toast.makeText(getApplicationContext(),"Enter
Email",Toast.LENGTH_LONG).show();
                    return;
                }
                if(TextUtils.isEmpty(password)){
                    Toast.makeText(getApplicationContext(),"Enter
Password",Toast.LENGTH_LONG).show();
                    return;
                }
                mAuth.createUserWithEmailAndPassword(email, password)
                        .addOnCompleteListener(new
OnCompleteListener<AuthResult>() {
                            @Override
                            public void onComplete(@NonNull Task<AuthResult>
task) {
                                progressBar.setVisibility(View.GONE);
                                if (task.isSuccessful()) {

                                    Toast.makeText(getApplicationContext(),
"Acoount created.",

                                            Toast.LENGTH_SHORT).show();
                                    startActivity(new
Intent(getApplicationContext(), login.class));
                                    finish();
//                                    // Sign in success, update UI with the
signed-in user's information
////                                    Log.d(TAG,
"createUserWithEmail:success");
//                                    FirebaseUser user =
mAuth.getCurrentUser();
//                                    //updateUI(user);
                                } else {
                                    // If sign in fails, display a message to
the user.
//                                    Log.w(TAG,
"createUserWithEmail:failure", task.getException());
```

```
                                        Toast.makeText(getApplicationContext(),
"Authentication failed.",
                                                Toast.LENGTH_SHORT).show();
                                        //updateUI(null);
                                    }
                                }
                            });


                }
            });
    }
}
```

In login.java activity

```
package com.saad_1737.firebase_authentication;

import androidx.annotation.NonNull;
import androidx.appcompat.app.AppCompatActivity;

import android.annotation.SuppressLint;
import android.content.Intent;
import android.os.Bundle;
import android.text.TextUtils;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.ProgressBar;
import android.widget.Toast;

import com.google.android.gms.tasks.OnCompleteListener;
import com.google.android.gms.tasks.Task;
import com.google.firebase.auth.AuthResult;
import com.google.firebase.auth.FirebaseAuth;
import com.google.firebase.auth.FirebaseUser;

public class login extends AppCompatActivity {

    Button login, regist;
    EditText  edit_email, edit_pass;
    ProgressBar progressBar;
    FirebaseAuth mAuth;
    @SuppressLint("MissingInflatedId")

    @Override
    public void onStart() {
        super.onStart();
        // Check if user is signed in (non-null) and update UI accordingly.
        FirebaseUser currentUser = mAuth.getCurrentUser();
        if(currentUser != null){
            startActivity(new Intent(getApplicationContext(),
MainActivity.class));
            finish();
        }
    }
    @Override
```

```java
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_login);

        login = findViewById(R.id.login);
        regist = findViewById(R.id.regis);
        edit_email = findViewById(R.id.Email);
        edit_pass = findViewById(R.id.Password);
        progressBar = findViewById(R.id.progress_bar);
        mAuth = FirebaseAuth.getInstance();

        regist.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                startActivity(new Intent(getApplicationContext(),
registration.class));
                finish();
            }
        });

        login.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String email, password;
                progressBar.setVisibility(View.VISIBLE);

                email = String.valueOf(edit_email.getText());
                password = String.valueOf(edit_pass.getText());

                if(TextUtils.isEmpty(email)){
                    Toast.makeText(getApplicationContext(),"Enter
Email",Toast.LENGTH_LONG).show();
                    return;
                }
                if(TextUtils.isEmpty(password)){
                    Toast.makeText(getApplicationContext(),"Enter
Password",Toast.LENGTH_LONG).show();
                    return;
                }
                mAuth.signInWithEmailAndPassword(email, password)
                        .addOnCompleteListener(new
OnCompleteListener<AuthResult>() {
                            @Override
                            public void onComplete(@NonNull Task<AuthResult>
task) {
                                if (task.isSuccessful()) {
                                    Toast.makeText(getApplicationContext(),
"Login Sucessful.",
                                            Toast.LENGTH_SHORT).show();
                                    startActivity(new
Intent(getApplicationContext(),MainActivity.class));
                                    finish();
                                    // Sign in success, update UI with the
signed-in user's information
//                                    Log.d(TAG, "signInWithEmail:success");
//                                    FirebaseUser user =
mAuth.getCurrentUser();
```

```
//                                                    updateUI(user);
                                        } else {
//                                              // If sign in fails, display a message
to the user.
//                                              Log.w(TAG, "signInWithEmail:failure",
task.getException());
                                            Toast.makeText(getApplicationContext(),
"Authentication failed.",
                                                    Toast.LENGTH_SHORT).show();
//                                          updateUI(null);
                                        }
                                    }
                                });

                }
            });


    }
}
```

in Mainactivity.java

```java
package com.saad_1737.firebase_authentication;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.Toast;

import com.google.firebase.auth.FirebaseAuth;
import com.google.firebase.auth.FirebaseUser;

public class MainActivity extends AppCompatActivity {

    Button b;
    FirebaseAuth mAuth;
    FirebaseUser user;

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

        mAuth = FirebaseAuth.getInstance();
        user = mAuth.getCurrentUser();
        b = findViewById(R.id.logout);
        if(user == null){
            startActivity(new Intent(MainActivity.this, login.class));
            finish();
        }
        else {
```

```java
Toast.makeText(this,user.getEmail().toString(),Toast.LENGTH_LONG).show();
        }
        b.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                FirebaseAuth.getInstance().signOut();
                startActivity(new Intent(MainActivity.this, login.class));
                finish();
            }
        });

    }
}
```

The End