# SOURCE CODE:

**MainActivity.java**

package com.example.librarymgmtsystem;

import androidx.appcompat.app.AppCompatActivity; import android.content.Intent;

import android.os.Bundle; import android.view.View; import android.widget.Button; import android.widget.TextView; import android.widget.Toast;

import com.google.android.gms.tasks.OnSuccessListener; import com.google.firebase.firestore.DocumentSnapshot; import com.google.firebase.firestore.FirebaseFirestore; import com.google.firebase.firestore.QuerySnapshot; import java.util.List;

public class MainActivity extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState); setContentView(R.layout.activity\_main);

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

new View.OnClickListener() { @Override

public void onClick(View v) {

FirebaseFirestore db = FirebaseFirestore.getInstance(); TextView uname=findViewById(R.id.username); TextView password=findViewById(R.id.password); String user=uname.getText().toString();

String pass=password.getText().toString(); db.collection("user").get().addOnSuccessListener(

new OnSuccessListener<QuerySnapshot>() { @Override

public void onSuccess(QuerySnapshot queryDocumentSnapshots) { if(queryDocumentSnapshots.isEmpty()){

Toast.makeText(MainActivity.this,"Invalid Credentials",Toast.LENGTH\_SHORT);

}

else{

List<DocumentSnapshot> list = queryDocumentSnapshots.getDocuments();

for(DocumentSnapshot d:list){ if(d.get("uname").toString().equals(user) &&

d.get("pass").toString().equals(pass) && user.equals("admin")==false){

Intent user=new Intent(getApplicationContext(),MainActivity2.class);

user.putExtra("name",d.get("name").toString());

startActivity(user);

}

else if(d.get("uname").toString().equals(user) && d.get("pass").toString().equals(pass) && user.equals("admin")==true){

Intent adm=new Intent(getApplicationContext(),MainActivity6.class);

startActivity(adm);

}

}

}

}

}

);

}

}

);

}

}

# MainActivity2.java

package com.example.librarymgmtsystem;

import androidx.appcompat.app.AppCompatActivity; import android.os.Bundle;

import android.content.Intent; import android.view.View; import android.widget.Button; import android.widget.TextView;

public class MainActivity2 extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState); setContentView(R.layout.activity\_main2); TextView tv=findViewById(R.id.welcmsg);

tv.setText("Welcome "+getIntent().getStringExtra("name"));

Intent in1=new Intent(getApplicationContext(),MainActivity.class); Button b1=findViewById(R.id.logout);

b1.setOnClickListener(

new View.OnClickListener() { @Override

public void onClick(View v) { startActivity(in1);

}

}

);

Intent in2=new Intent(getApplicationContext(),MainActivity3.class); Button b2=findViewById(R.id.available); in2.putExtra("name",getIntent().getStringExtra("name")); b2.setOnClickListener(

new View.OnClickListener() { @Override

public void onClick(View v) { startActivity(in2);

}

}

);

Intent in3=new Intent(getApplicationContext(),MainActivity4.class); Button b3=findViewById(R.id.booksborrowed); in3.putExtra("name",getIntent().getStringExtra("name")); b3.setOnClickListener(

new View.OnClickListener() { @Override

public void onClick(View v) { startActivity(in3);

}

}

);

Intent in4=new Intent(getApplicationContext(),MainActivity5.class); in4.putExtra("name",getIntent().getStringExtra("name"));

Button b4=findViewById(R.id.borrow); b4.setOnClickListener(

new View.OnClickListener() { @Override

public void onClick(View v) { startActivity(in4);

}

}

);

}

}

# MainActivity3.java

package com.example.librarymgmtsystem;

import androidx.appcompat.app.AppCompatActivity; import android.content.Intent;

import android.os.Bundle; import android.view.View; import android.widget.Button; import android.widget.EditText;

import android.widget.LinearLayout;

import android.widget.TextView

import com.google.android.gms.tasks.OnSuccessListener; import com.google.firebase.firestore.DocumentSnapshot; import com.google.firebase.firestore.FirebaseFirestore; import com.google.firebase.firestore.QuerySnapshot; import java.util.List;

public class MainActivity3 extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState); setContentView(R.layout.activity\_main3); TextView tv=new TextView(this);

LinearLayout ll=findViewById(R.id.booklst);

FirebaseFirestore db = FirebaseFirestore.getInstance(); db.collection("books").get().addOnSuccessListener(

new OnSuccessListener<QuerySnapshot>() { @Override

public void onSuccess(QuerySnapshot queryDocumentSnapshots) { if(queryDocumentSnapshots.isEmpty()){

tv.setText("No books found"); ll.addView(tv);

}

else{

List<DocumentSnapshot> list = queryDocumentSnapshots.getDocuments(); String s="\n\n\n\n"+"Books Available"+"\n\n\n\n";

for(DocumentSnapshot d:list){

s=s+"Id: "+d.get("id")+"\nTitle: "+d.get("title")+"\n"+"Author:

"+d.get("author")+"\n"+"Availablity: "+d.get("count")+"\n\n\n";

}

tv.setText(s); ll.addView(tv);

}

}

}

);

Button bn=findViewById(R.id.gotohome); bn.setOnClickListener(

new View.OnClickListener() { @Override

public void onClick(View v) {

Intent in1=new Intent(getApplicationContext(),MainActivity2.class); in1.putExtra("name",getIntent().getStringExtra("name")); startActivity(in1);

}

}

);

}

}

# MainActivity4.java

package com.example.librarymgmtsystem;

import androidx.appcompat.app.AppCompatActivity; import android.content.Intent;

import android.os.Bundle; import android.view.View; import android.widget.Button;

import android.widget.LinearLayout; import android.widget.TextView;

import com.google.android.gms.tasks.OnSuccessListener; import com.google.firebase.firestore.DocumentSnapshot; import com.google.firebase.firestore.FirebaseFirestore; import com.google.firebase.firestore.QuerySnapshot;

import java.util.List;

public class MainActivity4 extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState); setContentView(R.layout.activity\_main4); TextView tv=new TextView(this);

LinearLayout ll=findViewById(R.id.borrowbooklst); FirebaseFirestore db = FirebaseFirestore.getInstance(); db.collection("transact").get().addOnSuccessListener(

new OnSuccessListener<QuerySnapshot>() { @Override

public void onSuccess(QuerySnapshot queryDocumentSnapshots) { if(queryDocumentSnapshots.isEmpty()){

tv.setText("No books found"); ll.addView(tv);

}

else{

List<DocumentSnapshot> list = queryDocumentSnapshots.getDocuments(); String s="\n\n\n\n"+"Books Borrowed"+"\n\n\n\n";

for(DocumentSnapshot d:list){ if(getIntent().getStringExtra("name").equals(d.get("name"))){

s=s+"Title: "+d.get("title")+"\n"+"Author: "+d.get("author")+"\n";

s=s+"Due Date: "+d.get("due")+"\n"+"Status: "+d.get("return")+"\n"

+"Transaction ID: "+d.get("txnid")+"\n\n\n";

}

}

tv.setText(s); ll.addView(tv);

}

}

}

);

Button bn=findViewById(R.id.gotohome); bn.setOnClickListener(

new View.OnClickListener() { @Override

public void onClick(View v) {

Intent in1=new Intent(getApplicationContext(),MainActivity2.class); in1.putExtra("name",getIntent().getStringExtra("name")); startActivity(in1);

}

}

);

}

}

# MainActivity5.java

package com.example.librarymgmtsystem;

import androidx.appcompat.app.AppCompatActivity; import android.content.Intent;

import android.os.Bundle; import android.view.View; import android.widget.Button; import android.widget.EditText; import android.widget.Toast;

import com.google.android.gms.tasks.OnSuccessListener; import com.google.firebase.firestore.DocumentSnapshot; import com.google.firebase.firestore.FirebaseFirestore;

import com.google.firebase.firestore.QueryDocumentSnapshot; import com.google.firebase.firestore.QuerySnapshot;

import java.text.SimpleDateFormat; import java.time.LocalDateTime;

import java.time.format.DateTimeFormatter; import java.util.Calendar;

import java.util.Date; import java.util.HashMap; import java.util.List; import java.util.Map;

public class MainActivity5 extends AppCompatActivity { @Override

protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState); setContentView(R.layout.activity\_main5);

Button bt=findViewById(R.id.button); bt.setOnClickListener(

new View.OnClickListener() { @Override

public void onClick(View v) {

EditText et= findViewById(R.id.editTextText); String bookid=et.getText().toString();

FirebaseFirestore db = FirebaseFirestore.getInstance(); db.collection("books").get().addOnSuccessListener(

new OnSuccessListener<QuerySnapshot>() { @Override

public void onSuccess(QuerySnapshot queryDocumentSnapshots) { int flag = 0;

DocumentSnapshot fin = null;

if (queryDocumentSnapshots.isEmpty()) { Toast.makeText(MainActivity5.this, "Invalid Request",

Toast.LENGTH\_SHORT);

} else {

List<DocumentSnapshot> list = queryDocumentSnapshots.getDocuments();

for (DocumentSnapshot d : queryDocumentSnapshots) { if (d.get("id").toString().equals(bookid) &&

Integer.parseInt(d.get("count").toString())>0) {

flag = 1; fin=d;

}

}

}

if(flag==1){

Map<String,Object> mapa = new HashMap<>(); mapa.put("id", fin.get("id").toString()); mapa.put("name",getIntent().getStringExtra("name")); mapa.put("title",fin.get("title").toString());

mapa.put("author",fin.get("author").toString()); mapa.put("return","borrowed");

SimpleDateFormat sdf = new SimpleDateFormat("dd/MM/yyyy"); Calendar c = Calendar.getInstance();

c.setTime(new Date()); // Using today's date c.add(Calendar.DATE, 10); // Adding 5 days String ddate = sdf.format(c.getTime()); mapa.put("due",ddate);

mapa.put("txnid",getIntent().getStringExtra("name")+ddate);

Map<String,Object> mapb = new HashMap<>(); mapb.put("count",(Integer.parseInt(fin.get("count").toString())-1));

mapb.put("title",fin.get("title").toString());

mapb.put("author",fin.get("author").toString());

mapb.put("id", fin.get("id").toString());

db.collection("transact").document(getIntent().getStringExtra("name")+new Date()).set(

mapa

Toast.LENGTH\_SHORT);

);

db.collection("books").document(fin.get("title").toString()).set( mapb

).addOnSuccessListener(new OnSuccessListener<Void>() { @Override

public void onSuccess(Void unused) { Toast.makeText(MainActivity5.this, "Transaction successfull",

}

});

}

}

}

);

}

}

);

Button bt2=findViewById(R.id.button2);

Intent in=new Intent(getApplicationContext(),MainActivity2.class); in.putExtra("name",getIntent().getStringExtra("name")); bt2.setOnClickListener(

new View.OnClickListener() { @Override

public void onClick(View v) { startActivity(in);

}

}

);

}

}

# MainActivity6.java

package com.example.librarymgmtsystem;

import androidx.appcompat.app.AppCompatActivity; import android.content.Intent;

import android.os.Bundle;

import android.view.View; import android.widget.Button;

public class MainActivity6 extends AppCompatActivity { @Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState); setContentView(R.layout.activity\_main6); Button btn8=findViewById(R.id.button8); btn8.setOnClickListener(

new View.OnClickListener() { @Override

public void onClick(View v) {

Intent in=new Intent(getApplicationContext(),MainActivity.class); startActivity(in);

}

}

);

Button btn6=findViewById(R.id.button6); btn6.setOnClickListener(

new

View.OnClickListener() { @Override

public void onClick(View v) {

Intent in1=new Intent(getApplicationContext(),MainActivity7.class); startActivity(in1);

}

}

);

}

}

# MainActivity7.java

package com.example.librarymgmtsystem;

import androidx.appcompat.app.AppCompatActivity; import android.os.Bundle;

import android.view.View; import android.widget.Button; import android.widget.EditText;

public class MainActivity7 extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState); setContentView(R.layout.activity\_main7);

Button btn=findViewById(R.id.button3);

btn.setOnClickListener(new View.OnClickListener() { @Override

public void onClick(View v) {

EditText et=findViewById(R.id.editTextText2); String txn=et.getText().toString();

}

});

}

}

# OUTPUT:







