The codes

Login page:

```
package com.example.fullproject;

import androidx.annotation.NonNull;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.text.TextUtils;
import android.view.View;
import android.widget.Button;
import android.widget.TextView;
import android.widget.Toast;
import com.google.android.gms.tasks.OnCompleteListener;
import com.google.android.gms.tasks.Task;
import com.google.android.material.textfield.TextInputEditText;
import com.google.firebase.auth.AuthResult;
import com.google.firebase.auth.FirebaseAuth;
import com.google.firebase.auth.FirebaseUser;

import android.os.Bundle;

public class Login extends AppCompatActivity {

    TextInputEditText editTextEmail ,editTextPassword;
    Button buttonLogin;
    FirebaseAuth mAuth;
    TextView textView;

    @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){
            Intent intent=new
Intent(getApplicationContext(),MainActivity.class);
            startActivity(intent);
            finish();
        }
    }
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_login);
        mAuth=FirebaseAuth.getInstance();
        editTextEmail=findViewById(R.id.email);
        editTextPassword=findViewById(R.id.password);
        buttonLogin=findViewById(R.id.btn_login);

        textView=findViewById(R.id.registernNow);
        textView.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Intent intent =new Intent(getApplicationContext(),
```

```
Register.class);
                startActivity(intent);
                finish();
            }
        });

        buttonLogin.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String email, password;
                email=String.valueOf(editTextEmail.getText());
                password=String.valueOf(editTextPassword.getText());

                if (TextUtils.isEmpty(email)){

                    Toast.makeText(Login.this,"Enter email",
Toast.LENGTH_SHORT).show();
                    return;
                }
                if (TextUtils.isEmpty(password)){

                    Toast.makeText(Login.this,"Enter password",
Toast.LENGTH_SHORT).show();
                    return;
                }

                mAuth.signInWithEmailAndPassword(email, password)
                        .addOnCompleteListener( new
OnCompleteListener<AuthResult>() {
                            @Override
                            public void onComplete(@NonNull
Task<AuthResult> task) {
                                if (task.isSuccessful()) {
                                    // Sign in success, update UI with the
signed-in user's information

Toast.makeText(getApplicationContext(),"yesssssssss it
worked",Toast.LENGTH_SHORT).show();

                                    Intent intent=new
Intent(getApplicationContext(),Subjects.class);
                                    startActivity(intent);
                                    finish();

                                } else {

                                    Toast.makeText(Login.this,
"Authentication failed.",
                                            Toast.LENGTH_SHORT).show();

                                }
                            }
                        });

            }
        });

    }
}
```

register page:

```
package com.example.fullproject;

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

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

import android.widget.TextView;
import android.widget.Toast;

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


public class Register extends AppCompatActivity {

    TextInputEditText editTextEmail ,editTextPassword;
    Button buttonReg;
    FirebaseAuth mAuth;
    TextView textView;


    @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){
            Intent intent=new
Intent(getApplicationContext(),MainActivity.class);
            startActivity(intent);
            finish();
        }
    }
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_register);
        mAuth=FirebaseAuth.getInstance();
        editTextEmail=findViewById(R.id.email);
        editTextPassword=findViewById(R.id.password);
        buttonReg=findViewById(R.id.btn_register);
        textView=findViewById(R.id.loginNow);



        textView.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Intent intent =new Intent(getApplicationContext(),
```

```
Login.class);
                startActivity(intent);
                finish();
            }
        });
        buttonReg.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String email, password;
                email=String.valueOf(editTextEmail.getText());
                password=String.valueOf(editTextPassword.getText());

                if (TextUtils.isEmpty(email)){

                    Toast.makeText(Register.this,"Enter email",
Toast.LENGTH_SHORT).show();
                    return;
                }
                if (TextUtils.isEmpty(password)){

                    Toast.makeText(Register.this,"Enter password",
Toast.LENGTH_SHORT).show();
                    return;
                }

                mAuth.createUserWithEmailAndPassword(email, password)
                        .addOnCompleteListener(new
OnCompleteListener<AuthResult>() {
                            @Override
                            public void onComplete(@NonNull
Task<AuthResult> task) {
                                if (task.isSuccessful()) {
                                    Toast.makeText(Register.this,
"Yesssssssssssssssssssssssssssss.",
                                            Toast.LENGTH_SHORT).show();
                                    Intent intent =new
Intent(getApplicationContext(),Student.class);
                                    startActivity(intent);
                                    finish();


                                } else {
                                    // If sign in fails, display a message
to the user.
                                    Toast.makeText(Register.this,
"Authentication failed.",
                                            Toast.LENGTH_SHORT).show();

                                }
                            }
                        });




            }

        });

    }
}
```

attend page:

```
package com.example.fullproject;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

public class AttendPage extends AppCompatActivity {

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

scan page:

```
package com.example.fullproject;

import androidx.appcompat.app.AppCompatActivity;
import androidx.core.app.NotificationCompat;
import androidx.core.app.NotificationManagerCompat;

import android.app.PendingIntent;
import android.content.Context;
import android.content.Intent;
import android.content.IntentFilter;
import android.nfc.FormatException;
import android.nfc.NdefMessage;
import android.nfc.NdefRecord;
import android.nfc.NfcAdapter;
import android.nfc.Tag;
import android.nfc.tech.Ndef;
import android.os.Bundle;
import android.os.Parcelable;
import android.util.Log;
import android.view.View;
import android.widget.Button;
import android.widget.TextView;
import android.widget.Toast;

import com.google.firebase.database.DatabaseReference;
import com.google.firebase.database.FirebaseDatabase;

import java.io.IOException;
import java.io.UnsupportedEncodingException;

public class ScannPage extends AppCompatActivity {

    public static final String Error_Detected = "No NFC Tag Detected";
    public static final String Write_Success = "Text Written
Successfully!";
    public static final String Write_Error = "Error during Writing, Try
Again!";
    NfcAdapter nfcAdapter;
    PendingIntent pendingIntent;
    IntentFilter writingTagFilters[];
    boolean writeMode;
    Tag myTag;
    Context context;

    TextView nfc_contents;
    Button ActivateButton;

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

        nfc_contents = (TextView) findViewById(R.id.nfc_contents);
        ActivateButton = findViewById(R.id.ActivateButton);
        context = this;
        ActivateButton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                try {
```

```
                    if (myTag == null) {
                        Toast.makeText(context, Error_Detected,
Toast.LENGTH_LONG).show();
                    } else {
                        write("Attend", myTag);
                        Toast.makeText(context, Write_Success,
Toast.LENGTH_LONG).show();
                        NotificationCompat.Builder builder = new
NotificationCompat.Builder(ScannPage.this, "Notification");
                        builder.setContentTitle("Title");
                        builder.setContentText("you have been attend to
this class");

builder.setSmallIcon(R.drawable.ic_launcher_background);
                        builder.setAutoCancel(true);
                        NotificationManagerCompat managerCompat =
NotificationManagerCompat.from(ScannPage.this);




                    }
                } catch (IOException e) {
                    Toast.makeText(context, Write_Error,
Toast.LENGTH_LONG).show();
                    e.printStackTrace();
                } catch (FormatException e) {
                    Toast.makeText(context, Write_Error,
Toast.LENGTH_LONG).show();
                    e.printStackTrace();
                }
            }

        });


        nfcAdapter = NfcAdapter.getDefaultAdapter(this);
        if (nfcAdapter == null) {
            Toast.makeText(this, "This device does not support NFC",
Toast.LENGTH_SHORT).show();
            finish();
        }
        readFromIntent(getIntent());
        pendingIntent = PendingIntent.getActivity(this, 0, new Intent(this,
getClass()).addFlags(Intent.FLAG_ACTIVITY_SINGLE_TOP), 0);
        IntentFilter tagDetected = new
IntentFilter(NfcAdapter.ACTION_TAG_DISCOVERED);
        tagDetected.addCategory( Intent.CATEGORY_DEFAULT);
        writingTagFilters = new IntentFilter[]{tagDetected};
    }

    private void readFromIntent(Intent intent) {
        String action = intent.getAction();
        if (NfcAdapter.ACTION_TAG_DISCOVERED.equals(action)
                || NfcAdapter.ACTION_TECH_DISCOVERED.equals(action)
                || NfcAdapter.ACTION_NDEF_DISCOVERED.equals(action)) {
            Parcelable[]
rawMsgs=intent.getParcelableArrayExtra(NfcAdapter.EXTRA_NDEF_MESSAGES);
            NdefMessage[] msgs = null;
            if (rawMsgs != null) {
                msgs = new NdefMessage[rawMsgs.length];
```

```
                for (int i = 0; i < rawMsgs.length; i++) {
                    msgs[i] = (NdefMessage) rawMsgs[i];
                }
            }
            buildTagViews(msgs);
        }
    }

    private void buildTagViews(NdefMessage[] msgs) {
        if (msgs == null || msgs.length == 0) return;

        String text = "";
//        String tagId = new String(msgs[0].getRecords()[0].getType());
        byte[] payload = msgs[0].getRecords()[0].getPayload();
        String textEncoding = ((payload[0] & 128) == 0) ? "UTF-8" : "UTF-
16"; // Get the Text Encoding
        int languageCodeLength = payload[0] & 0063; // Get the Language
Code, e.g. "en"
        // String languageCode = new String(payload, 1, languageCodeLength,
"US-ASCII");

        try {
            // Get the Text
            text = new String(payload, languageCodeLength + 1,
payload.length - languageCodeLength - 1, textEncoding);
        } catch (UnsupportedEncodingException e) {
            Log.e("UnsupportedEncoding", e.toString());
        }

        FirebaseDatabase database =FirebaseDatabase.getInstance();
        DatabaseReference myRef =database.getReference("message");
        setContentView( R.layout.activity_attend_page );
        nfc_contents.setText("NFC Content: " + text);
    }

    private void write(String text, Tag tag) throws IOException,
FormatException {
        NdefRecord[] records = {createRecord(text)};
        NdefMessage message = new NdefMessage(records);
        // Get an instance of Ndef for the tag.
        Ndef ndef = Ndef.get(tag);
        // Enable I/O
        ndef.connect();
        // Write the message
        ndef.writeNdefMessage(message);
        // Close the connection
        ndef.close();
    }

    private NdefRecord createRecord(String text) throws
UnsupportedEncodingException {
        String lang = "en";
        byte[] textBytes = text.getBytes();
        byte[] langBytes = lang.getBytes("US-ASCII");
        int langLength = langBytes.length;
        int textLength = textBytes.length;
        byte[] payload = new byte[1 + langLength + textLength];

        // set status byte (see NDEF spec for actual bits)
        payload[0] = (byte) langLength;
```

```
        // copy langbytes and textbytes into payload
        System.arraycopy(langBytes, 0, payload, 1, langLength);
        System.arraycopy(textBytes, 0, payload, 1 + langLength,
textLength);

        NdefRecord recordNFC = new NdefRecord(NdefRecord.TNF_WELL_KNOWN,
NdefRecord.RTD_TEXT, new byte[0], payload);

        return recordNFC;
    }

    @Override
    protected void onNewIntent(Intent intent) {
        super.onNewIntent(intent);
        setIntent(intent);
        readFromIntent(intent);
        if (NfcAdapter.ACTION_TAG_DISCOVERED.equals(intent.getAction())) {
            myTag = intent.getParcelableExtra(NfcAdapter.EXTRA_TAG);
        }
    }

    @Override
    public void onPause() {
        super.onPause();
        WriteModeOff();
    }

    @Override
    public void onResume() {
        super.onResume();
        WriteModeOn();
    }



    private void WriteModeOn() {
        writeMode = true;
        nfcAdapter.enableForegroundDispatch(this, pendingIntent,
writingTagFilters, null);
    }


    private void WriteModeOff() {
        writeMode = false;
        nfcAdapter.disableForegroundDispatch(this);
    }
}
```

students page:

```
package com.example.fullproject;

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

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

import com.google.firebase.database.DataSnapshot;
import com.google.firebase.database.DatabaseError;
import com.google.firebase.database.DatabaseReference;
import com.google.firebase.database.FirebaseDatabase;
import com.google.firebase.database.ValueEventListener;

public class Student extends AppCompatActivity {


    private EditText studentNameEdt, studentPhoneEdt, studentAddressEdt;
    private Button sendDatabtn;


    FirebaseDatabase firebaseDatabase;


    DatabaseReference databaseReference;


    StudentINFO studentInfo;


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


        studentNameEdt = findViewById(R.id.idEdtStudentName);
        studentPhoneEdt = findViewById(R.id.idEdtStudentPhoneNumber);
        studentAddressEdt = findViewById(R.id.idEdtStudentAddress);


        firebaseDatabase = FirebaseDatabase.getInstance();


        databaseReference = firebaseDatabase.getReference("StudentInfo");


        studentInfo = new StudentINFO();

        sendDatabtn = findViewById(R.id.idBtnSendData);


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


                String name = studentNameEdt.getText().toString();
                String phone = studentPhoneEdt.getText().toString();
                String address = studentAddressEdt.getText().toString();


                if (TextUtils.isEmpty(name) && TextUtils.isEmpty(phone) &&
TextUtils.isEmpty(address)) {

                    Toast.makeText(Student.this, "Please add some data.",
```

```
Toast.LENGTH_SHORT).show();
                } else {

                    addDatatoFirebase(name, phone, address);
                }
            }
        });
    }

    private void addDatatoFirebase(String name, String phone, String
address) {

        studentInfo.setEmployeeName(name);
        studentInfo.setEmployeeContactNumber(phone);
        studentInfo.setEmployeeAddress(address);


        databaseReference.addValueEventListener(new ValueEventListener() {
            @Override
            public void onDataChange(@NonNull DataSnapshot snapshot) {

                databaseReference.setValue(studentInfo);


                Toast.makeText(Student.this, "data added",
Toast.LENGTH_SHORT).show();
            }

            @Override
            public void onCancelled(@NonNull DatabaseError error) {

                Toast.makeText(Student.this, "Fail to add data " + error,
Toast.LENGTH_SHORT).show();
            }
        });
    }
}
```

student info page:

```
package com.example.fullproject;

public class StudentINFO {

    private String studentName;

    // string variable for storing
    // employee contact number
    private String studentContactNumber;

    // string variable for storing
    // employee address.
    private String studentAddress;

    // an empty constructor is
    // required when using
    // Firebase Realtime Database.
    public StudentINFO() {

    }

    // created getter and setter methods
    // for all our variables.
    public String getEmployeeName() {
        return studentName;
    }

    public void setEmployeeName(String employeeName) {
        this.studentName = employeeName;
    }

    public String getEmployeeContactNumber() {
        return studentContactNumber;
    }

    public void setEmployeeContactNumber(String employeeContactNumber) {
        this.studentContactNumber = employeeContactNumber;
    }

    public String getEmployeeAddress() {
        return studentAddress;
    }

    public void setEmployeeAddress(String employeeAddress) {
        this.studentAddress = employeeAddress;
    }
}
```

subject page:

```
package com.example.fullproject;

import androidx.appcompat.app.AppCompatActivity;

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

public class Subjects extends AppCompatActivity {

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

        Button button=findViewById( R.id.button2 );
        button.setOnClickListener( new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Intent intent=new Intent(Subjects.this,ScannPage.class);
                startActivity( intent );

            }
        } );
    }
}
```

Main activity:

```
package com.example.fullproject;

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

public class MainActivity extends AppCompatActivity {

    FirebaseAuth auth;
    Button button;
    TextView textView;
    FirebaseUser user;

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

        auth=FirebaseAuth.getInstance();
        button=findViewById(R.id.logout);
        textView=findViewById(R.id.user_details);
        user=auth.getCurrentUser();
        if (user==null){
            Intent intent=new Intent(getApplicationContext(),Login.class);
            startActivity(intent);
            finish();
        }
        else {

            textView.setText(user.getEmail());

        }
        button.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                FirebaseAuth.getInstance().signOut();
                Intent intent=new
Intent(getApplicationContext(),Login.class);
                startActivity(intent);
                finish();
            }
        });

    }
}
```