

ESCUELA SUPERIOR POLITÉCNICA DEL LITORAL

FACULTAD DE ELECTRICIDAD Y COMPUTACIÓN

Materia: Aplicaciones Móviles y Servicios Telemáticos

Paralelo: 1

Docente: Ing. Adriana Collaguazo

Grupo: 1

Integrantes:

- Dayse Joselyne Maroto Lema

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Fecha de Fin: 13 de Febrero del 2021

Informe de la Tercera Evaluación Práctica

Enlace de Github:

https://github.com/dmaroto98/AMST_3EP_Maroto.git

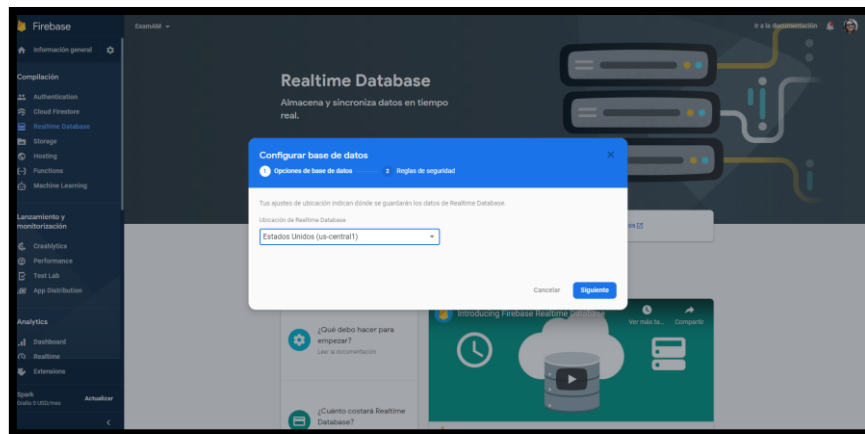
Enlace del Video:

https://espolec-my.sharepoint.com/:f:/g/personal/dmaroto_espol_edu_ec/EiBWl0Rju3VJIWANjH89DNkBH3OAxVeXpfR4mC6qfbVo8Q?e=taO3xP

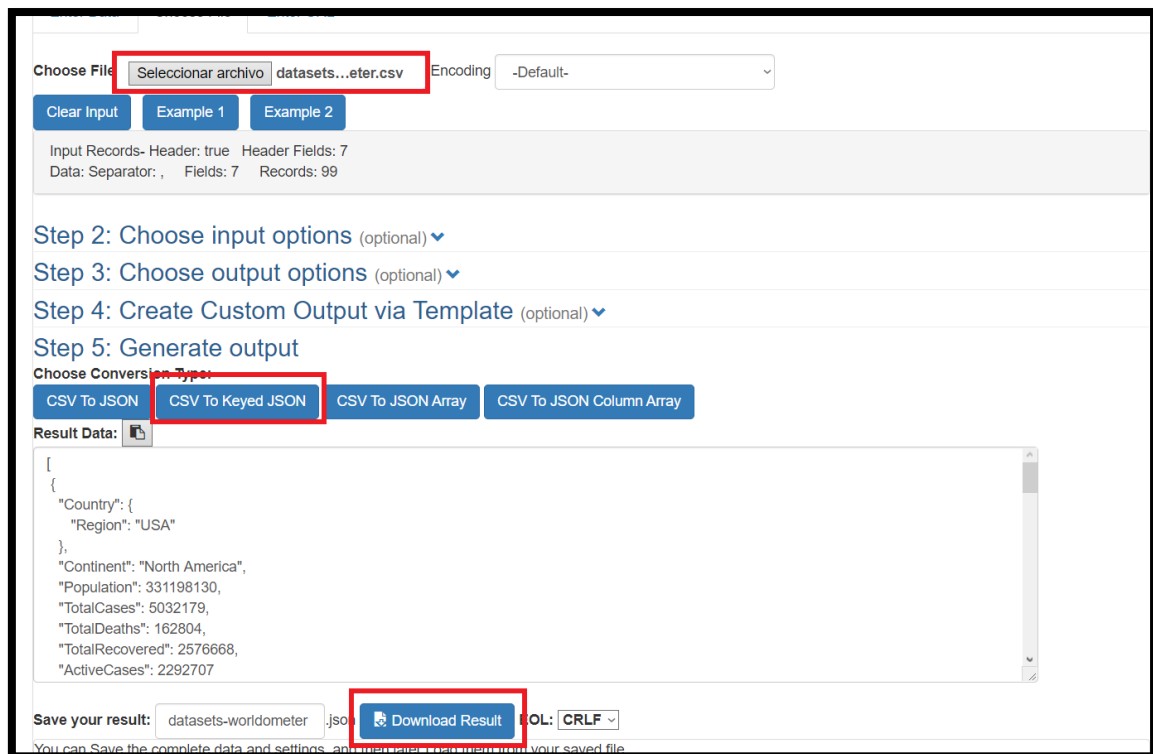
1) Resultados de las actividades

BASES DE DATOS

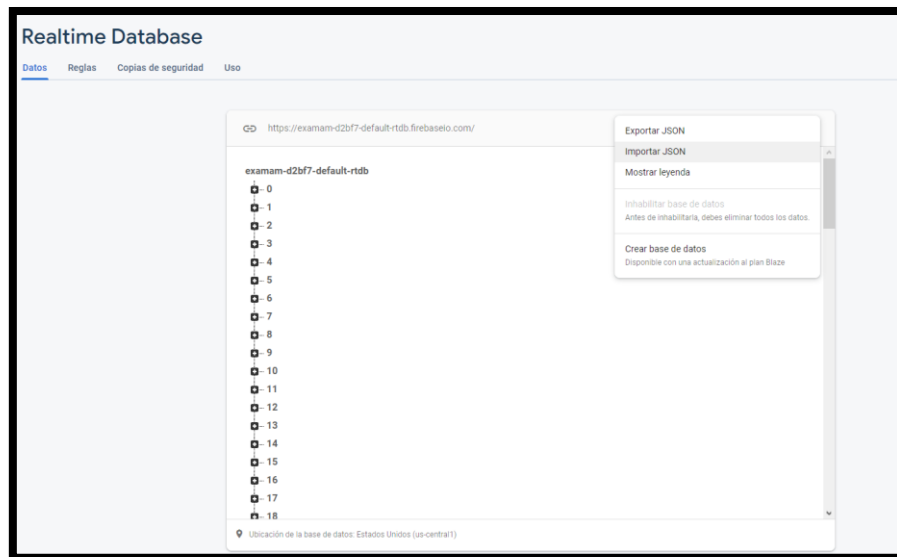
Primero creamos nuestro proyecto en Firebase y crearemos una base de datos en tiempo real.



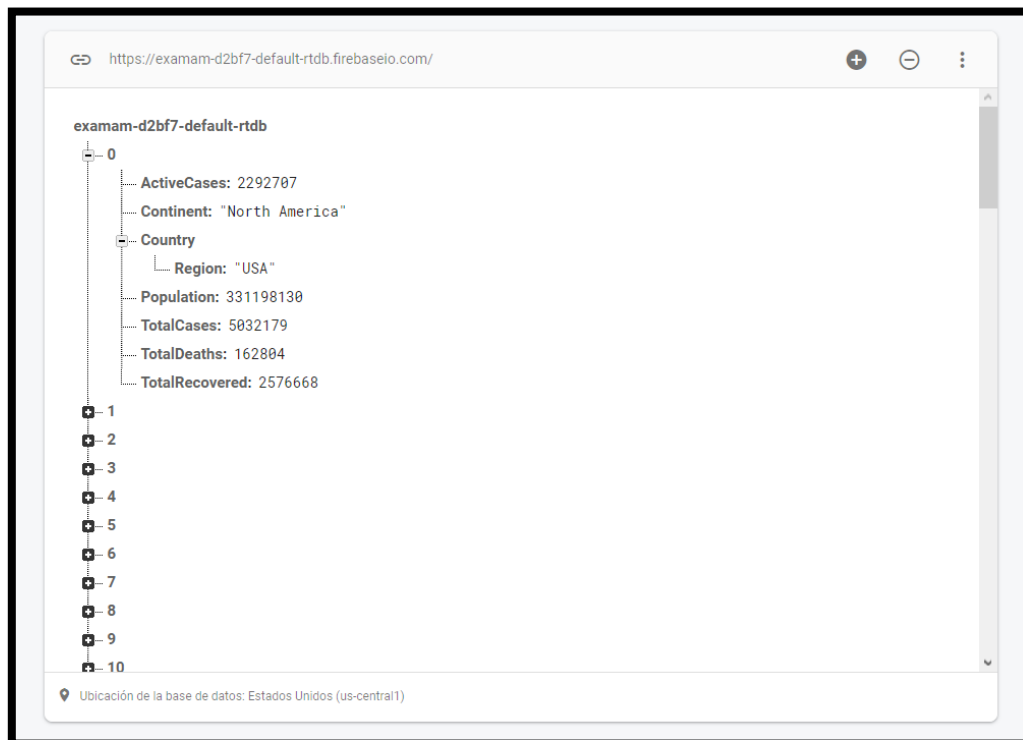
Con el archivo **datasets-worldometer.csv** proporcionado para esta evaluación procedemos a convertirlo en formato json a través del sitio web: <https://www.convertcsv.com/csv-to-json.htm>



Luego en Firebase importamos nuestro archivo json creado con anterioridad.



La estructura de cada uno de nuestros datos del csv tendrá la siguiente forma en json:



AndroidManifest.xml

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.amst.amst_3ep_maroto">

    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_portada2"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_portada2_round"
        android:supportRtl="true"
        android:theme="@style/Theme.AMST_3EP_Maroto">
        <activity android:name=".Principal" />
        <activity
            android:name=".splash"
            android:theme="@style/Theme.AppCompat.NoActionBar">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />

                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
        <activity
            android:name=".MainActivity"
            android:theme="@style/Theme.AppCompat.NoActionBar" />

        <meta-data
            android:name="preloaded_fonts"
            android:resource="@array/preloaded_fonts" />
    </application>

</manifest>
```

Gradle Project

// Top-level build file where you can add configuration options common to all sub-projects/modules.

```
buildscript {
    repositories {
        google()
        jcenter()
    }
    dependencies {
        classpath "com.android.tools.build:gradle:4.1.0"
        // Agrega esta Linea.
        classpath 'com.google.gms:google-services:4.3.2'

        // NOTE: Do not place your application dependencies here; they belong
        // in the individual module build.gradle files
    }
}

allprojects {
    repositories {
        google()
        jcenter()
        maven { url 'https://jitpack.io' }
    }
}

task clean(type: Delete) {
    delete rootProject.buildDir
}
```

Gradle Modulo

```
plugins {
    id 'com.android.application'
}

android {
    compileSdkVersion 30
    buildToolsVersion "30.0.2"

    defaultConfig {
        applicationId "com.amst.amst_3ep_maroto"
        minSdkVersion 16
        targetSdkVersion 30
        versionCode 1
        versionName "1.0"

        testInstrumentationRunner "androidx.test.runner.AndroidJUnitRunner"
    }

    buildTypes {
        release {
            minifyEnabled false
            proguardFiles getDefaultProguardFile('proguard-android-optimize.txt'), 'proguard-rules.pro'
        }
    }
    compileOptions {
        sourceCompatibility JavaVersion.VERSION_1_8
        targetCompatibility JavaVersion.VERSION_1_8
    }
}

dependencies {
    implementation fileTree(dir: 'libs', include: ['*.jar'])
    implementation 'androidx.appcompat:appcompat:1.2.0'
    implementation 'com.google.android.material:material:1.2.1'
    implementation 'androidx.constraintlayout:constraintlayout:2.0.4'
    testImplementation 'junit:junit:4.+'
    androidTestImplementation 'androidx.test.ext:junit:1.1.2'
    androidTestImplementation 'androidx.test.espresso:espresso-core:3.3.0'
    // Agrega esta línea dentro de las dependencias del proyecto
    // Import the Firebase BoM
    implementation platform('com.google.firebase:firebase-bom:26.1.0')
    // Add the dependency for the Firebase SDK for Google Analytics
    // When using the BoM, don't specify versions in Firebase dependencies
    implementation 'com.google.firebase:firebase-analytics'
    implementation 'com.google.firebase:firebase-auth:20.0.1'
    implementation 'com.google.android.gms:play-services-auth:19.0.0'
    // Visualizar imagen de perfil, agregamos libreria Picasso
    implementation 'com.squareup.picasso:picasso:2.5.2'
    implementation 'com.google.firebase:firebase-database:19.5.1'

    implementation 'com.android.volley:volley:1.1.1'
    implementation 'com.github.PhilJay:MPAndroidChart:v3.1.0'
}

// Agrega esta línea al final del archivo
apply plugin: 'com.google.gms.google-services'
```

Pantalla de bienvenida



activity_splash

```
<?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:background="#FFFFFF"
    android:orientation="vertical"
    tools:context=".splash">

    <ImageView
        android:id="@+id/imageView3"
        android:layout_width="0dp"
        android:layout_height="246dp"
        android:layout_marginStart="10dp"
        android:layout_marginLeft="10dp"
        android:layout_marginTop="100dp"
        android:layout_marginEnd="10dp"
        android:layout_marginRight="10dp"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:srcCompat="@drawable/ic_bacterias" />

    <TextView
        android:id="@+id/textView2"
        android:layout_width="406dp"
        android:layout_height="102dp"
        android:layout_marginTop="20dp"
        android:fontFamily="@font/bangers"
        android:gravity="center"
```

```

        android:text="ADITA S.A"
        android:textColor="#99A3A5"
        android:textSize="70sp"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.4"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/imageView3" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

Splash.java

```

package com.amst.amst_3ep_maroto;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.os.Bundle;
import android.os.Handler;
import android.view.WindowManager;
import android.view.animation.Animation;
import android.view.animation.AnimationUtils;
import android.widget.ImageView;
import android.widget.TextView;

public class splash extends AppCompatActivity {
    private static int SPLASH_SCREEN=3000;

    // Variables
    Animation topAnim, bottomAnim;
    ImageView image;
    TextView logo;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);

        getWindow().setFlags(WindowManager.LayoutParams.FLAG_FULLSCREEN,WindowManager
        .LayoutParams.FLAG_FULLSCREEN);
        setContentView(R.layout.activity_splash);

        // Animations
        topAnim= AnimationUtils.loadAnimation(this,R.anim.top_animation);

        bottomAnim=AnimationUtils.loadAnimation(this,R.anim.bottom_animation);

        // Hooks
        image= findViewById(R.id.imageView3);
        logo=findViewById(R.id.textView2);

        image.setAnimation(topAnim);
        logo.setAnimation(bottomAnim);

        new Handler().postDelayed(new Runnable() {
            @Override
            public void run() {
                Intent intent = new Intent(splash.this,MainActivity.class);
                startActivity(intent);
                finish();
            }
        }, SPLASH_SCREEN);
    }
}

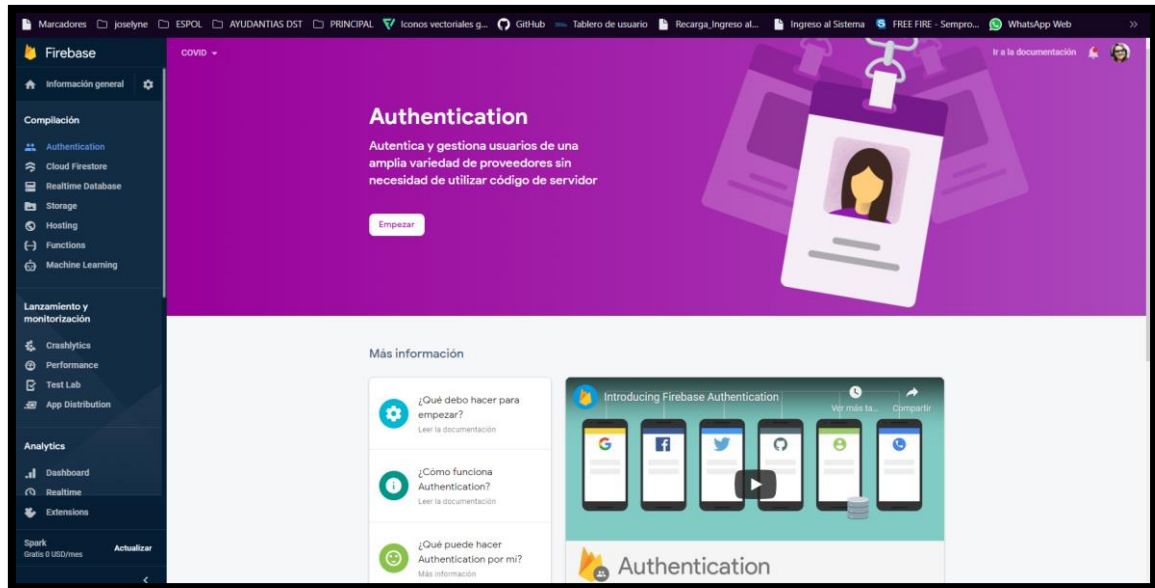
```



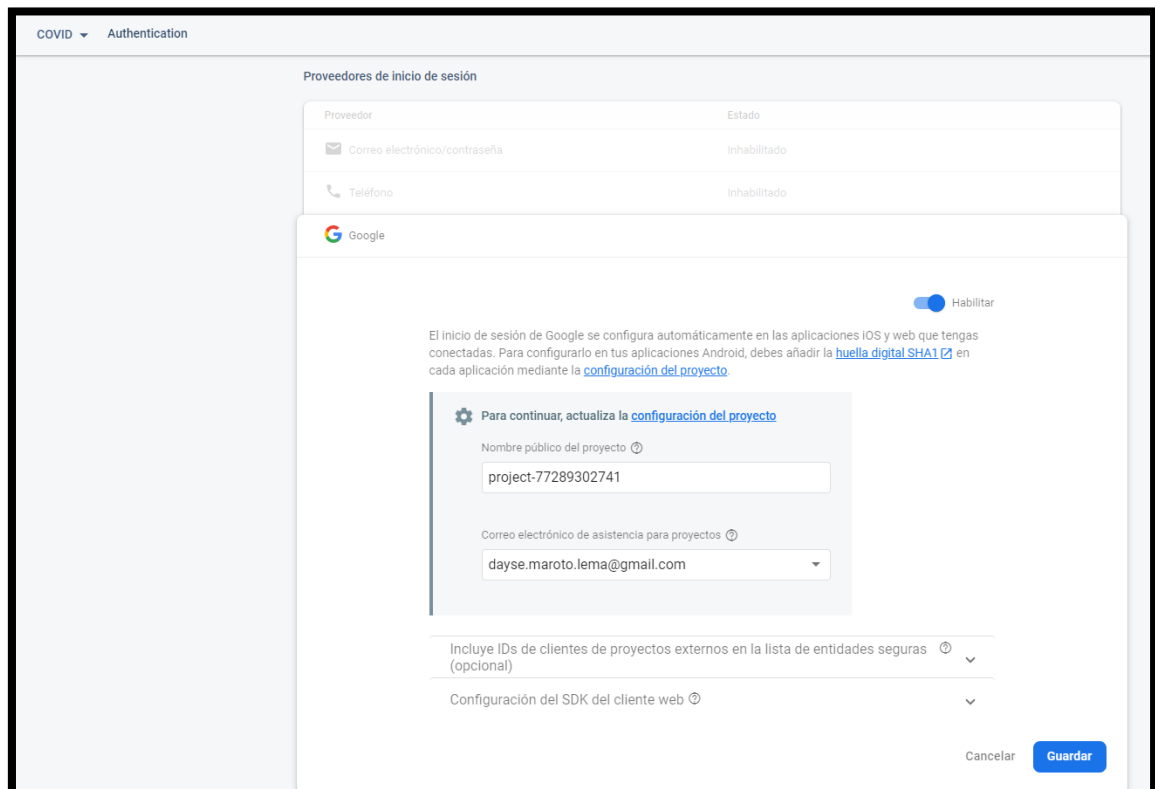
```
        }  
    }, SPLASH_SCREEN);  
}  
}
```

Inicio de sesión

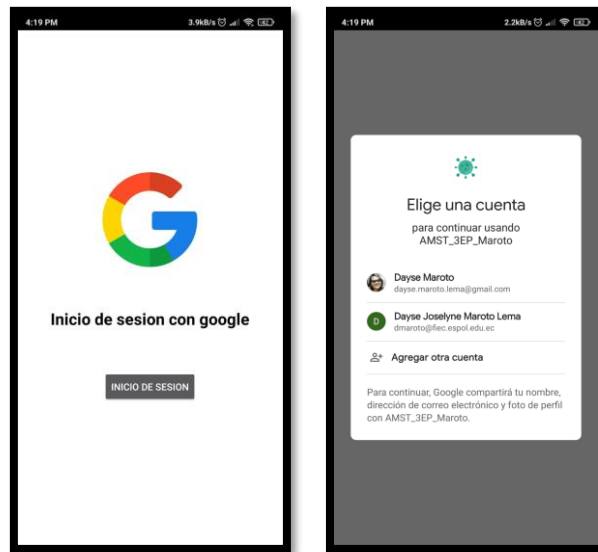
Activamos la autenticación por Google.



Habilitamos la autenticación de Google.



Pantalla de inicio de sesión con google



activity_main.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:background="#FFFFFF"
    android:gravity="center"
    android:orientation="vertical"
    tools:context=".MainActivity">

    <ImageView
        android:id="@+id/imageView"
        android:layout_width="153dp"
        android:layout_height="140dp"
        app:srcCompat="@drawable/ic_google" />

    <TextView
        android:id="@+id/textView"
        android:layout_width="match_parent"
        android:layout_height="153dp"
        android:gravity="center"
        android:text="Inicio de sesion con google"
        android:textColor="#000000"
        android:textSize="24sp"
        android:textStyle="bold" />

    <Button
        android:id="@+id/btn_login"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:onClick="iniciarSesion"
        android:text="INICIO DE SESION" />

</LinearLayout>
```

MainActivity.java

```
package com.amst.amst_3ep_maroto;

import androidx.appcompat.app.AppCompatActivity;

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

import com.google.android.gms.auth.api.signin.GoogleSignIn;
import com.google.android.gms.auth.api.signin.GoogleSignInAccount;
import com.google.android.gms.auth.api.signin.GoogleSignInClient;
import com.google.android.gms.auth.api.signin.GoogleSignInOptions;
import com.google.android.gms.common.api.ApiException;
import com.google.android.gms.tasks.Task;
import com.google.firebase.auth.AuthCredential;
import com.google.firebase.auth.FirebaseAuth;
import com.google.firebase.auth.FirebaseUser;
import com.google.firebase.auth.GoogleAuthProvider;

import java.util.HashMap;

public class MainActivity extends AppCompatActivity {
    //Varibales públicas
    static final int GOOGLE_SIGN_IN = 123;
    FirebaseAuth mAuth;
    GoogleSignInClient mGoogleSignInClient;
    Button btn_login;

    @Override
    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        mAuth = FirebaseAuth.getInstance();
        GoogleSignInOptions gso = new
        GoogleSignInOptions.Builder(GoogleSignInOptions.DEFAULT_SIGN_IN).requestIdToken(
            getString(R.string.default_web_client_id)).requestEmail().build();
        mGoogleSignInClient = GoogleSignIn.getClient(this, gso);

        Intent intent = getIntent();
        String msg = intent.getStringExtra("msg");
        if(msg != null){
            if(msg.equals("cerrarSesion")){
                cerrarSesion();
            }
        }

    }

    private void cerrarSesion() {
        mGoogleSignInClient.signOut().addOnCompleteListener(this,
            task -> updateUI(null));
    }

    public void iniciarSesion(View view) {
        Intent signInIntent = mGoogleSignInClient.getSignInIntent();
```

```

        startActivityForResult(signInIntent, GOOGLE_SIGN_IN);
    }

    @Override
    protected void onActivityResult(int requestCode, int resultCode, Intent
data) {
        super.onActivityResult(requestCode, resultCode, data);
        if (requestCode == GOOGLE_SIGN_IN) {
            Task<GoogleSignInAccount> task =
GoogleSignIn.getSignedInAccountFromIntent(data);
            try {
                GoogleSignInAccount account =
task.getResult(ApiException.class);
                if (account != null) firebaseAuthWithGoogle(account);
            } catch (ApiException e) {
                Log.w("TAG", "Fallo el inicio de sesión con google.", e);
            }
        }
    }

    private void firebaseAuthWithGoogle(GoogleSignInAccount account) {
        Log.d("TAG", "firebaseAuthWithGoogle:" + account.getId());
        AuthCredential credential =
GoogleAuthProvider.getCredential(account.getIdToken(), null);
        mAuth.signInWithCredential(credential).addOnCompleteListener(this,
task -> {
            if (task.isSuccessful()) {
                FirebaseUser user = mAuth.getCurrentUser();
                updateUI(user);
            } else {
                System.out.println("error");
                updateUI(null);
            }
        });
    }

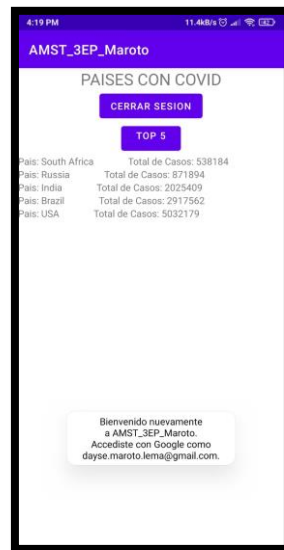
    private void updateUI(FirebaseUser user) {
        if (user != null) {

            finish();
            Intent intent = new Intent(this, Principal.class);

            startActivity(intent);
        } else {
            System.out.println("sin registrarse");
        }
    }
}

```

Países con covid



activity_principal.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:id="@+id/paises_contenedor"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:gravity="center_horizontal"
    android:orientation="vertical"
    tools:context=".Principal">

    <TextView
        android:id="@+id/textView3"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:gravity="center_horizontal"
        android:text="PAISES CON COVID"
        android:textSize="24sp" />

    <Button
        android:id="@+id/btn_cerrarSesion"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:onClick="cerrarSesion"
        android:text="Cerrar Sesion" />

    <Button
        android:id="@+id/btn_id"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:gravity="center_horizontal"
        android:onClick="iniciarBaseDeDatos"
        android:text="TOP 5" />
</LinearLayout>
```

Principal.java

```
package com.amst.amst_3ep_maroto;

import androidx.appcompat.app.AppCompatActivity;

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

import com.google.firebase.auth.FirebaseAuth;
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.Query;
import com.google.firebase.database.ValueEventListener;
import com.squareup.picasso.Picasso;

import java.util.ArrayList;
import java.util.HashMap;
import java.util.Map;

public class Principal extends AppCompatActivity {
    DatabaseReference db_reference;
    LinearLayout paises_contenedor;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_principal);
        Intent intent = getIntent();
        paises_contenedor= findViewById(R.id.paises_contenedor);
    }

    public void cerrarSesion(View view){
        FirebaseAuth.getInstance().signOut();
        finish();
        Intent intent = new Intent(this, MainActivity.class);
        intent.putExtra("msg", "cerrarSesion");
        startActivity(intent);
    }

    public void iniciarBaseDeDatos(View view){
        db_reference = FirebaseDatabase.getInstance().getReference();

        db_reference.orderByChild("TotalCases").limitToLast(5).addValueEventListener(
            new ValueEventListener() {
                @Override
                public void onDataChange(DataSnapshot dataSnapshot) {
                    for (DataSnapshot snapshot : dataSnapshot.getChildren()) {
                        System.out.println(snapshot);
                        TextView t=new TextView(getApplicationContext());
                    }
                }
            }
        );
    }
}
```

```

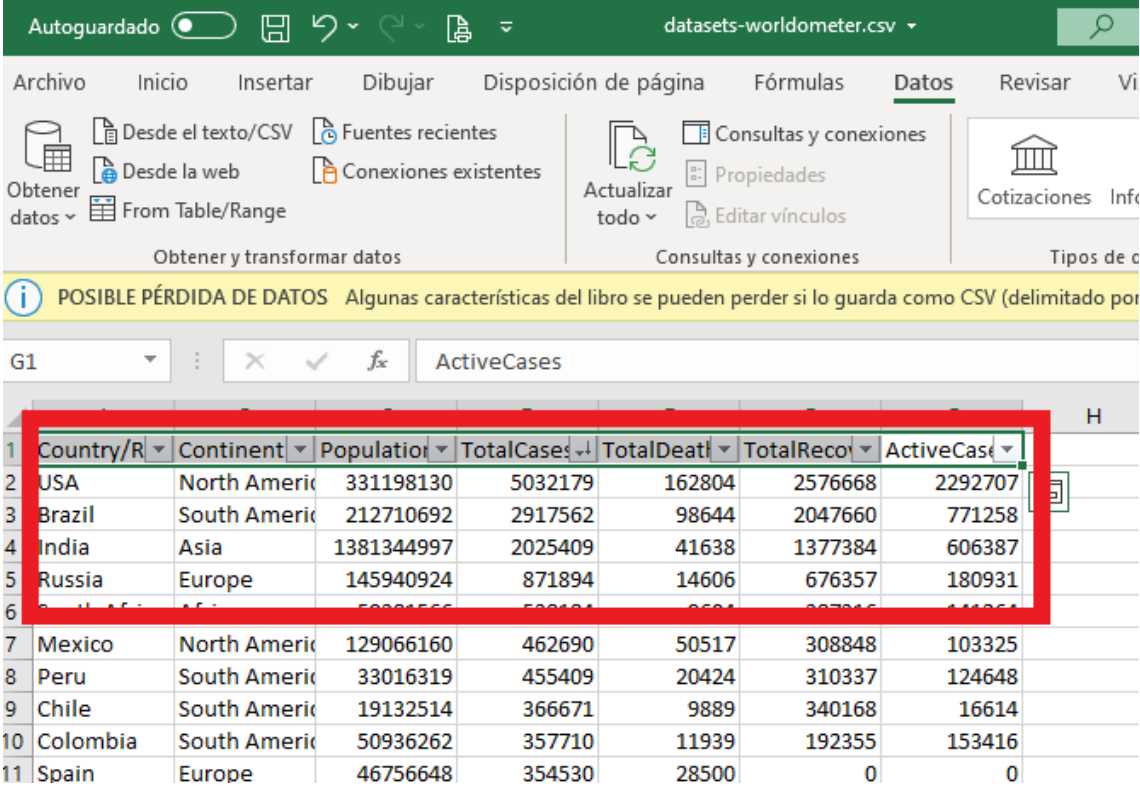
        String re="Pais:
" +(String.valueOf(snapshot.child("Country").child("Region").getValue()))+"
Total de Casos: " +(String.valueOf(snapshot.child("TotalCases").getValue()));
        t.setText(re);
        países_contenedor.addView(t);
    }
}

@Override
public void onCancelled(DatabaseError error) {
    System.out.println(error.toException());
}
});
}
}

```


2) Evidencia

Como se puede observar la aplicación si está arrojando los 5 países que tienen la mayor cantidad de casos de covid-19



The screenshot shows the Microsoft Excel interface with a table of COVID-19 data. The table has the following columns: Country/R, Continent, Population, TotalCases, TotalDeaths, TotalRecovered, and ActiveCases. The first five rows of data are highlighted with a red rectangle, indicating the top five countries by total cases.

	Country/R	Continent	Population	TotalCases	TotalDeaths	TotalRecovered	ActiveCases
1	USA	North America	331198130	5032179	162804	2576668	2292707
2	Brazil	South America	212710692	2917562	98644	2047660	771258
3	India	Asia	1381344997	2025409	41638	1377384	606387
4	Russia	Europe	145940924	871894	14606	676357	180931
5	Mexico	North America	129066160	462690	50517	308848	103325
6	Peru	South America	33016319	455409	20424	310337	124648
7	Chile	South America	19132514	366671	9889	340168	16614
8	Colombia	South America	50936262	357710	11939	192355	153416
9	Spain	Europe	46756648	354530	28500	0	0

3) Bibliografía

CSV To JSON Converter. (2021). Convertcsv.com. <https://www.convertcsv.com/csv-to-json.htm>

Vaibhav Pallod. (2020). Import firebase database data from excel or csv file in node child tree type structure [YouTube Video]. In *YouTube*.
<https://www.youtube.com/watch?v=ROOLMwpoGPg>