Facultad de ingeniería en ciencias de la computación

Docente: Ing. Alexander Alberto Sigüenza Campos

Practico 2 DSM

Desarrollo de Software para Móviles DSM104 G04L

Nombres y apellidos	Carnet
David Alexander Aguilar Panameño	AP190139
Carlos Emerson Portillo Martínez	PM191144

Splash Screen (100%)

SplashScreen.kt

```kotlin
package com.example.practico1_dsm

import android.content.Intent
import android.os.Bundle
import android.os.Handler
import android.os.Looper
import androidx.appcompat.app.AppCompatActivity

class SplashScreen : AppCompatActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_splash_screen)

        Handler(Looper.getMainLooper()).postDelayed({
            val intent = Intent(this@SplashScreen,
LoginScreen::class.java)
            startActivity(intent);
            finish()
        }, 9000);
    }
}
```

activity_splash_screen.xml

```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"
    android:background="#00BCD4"
    tools:context=".SplashScreen">

    <ImageView
        android:id="@+id/imageView"
        android:layout_width="248dp"
        android:layout_height="237dp"
        android:layout_marginStart="81dp"
        android:layout_marginTop="20dp"
        android:layout_marginEnd="82dp"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/textView"
        app:srcCompat="@drawable/logodonbosco" />

    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="95dp"
        android:layout_marginTop="30dp"
        android:layout_marginEnd="95dp"
        android:layout_marginBottom="20dp"
        android:text="@string/SplashTitle"
        android:textSize="34sp"
```

```xml
        android:textStyle="bold|italic"
        app:layout_constraintBottom_toTopOf="@+id/imageView"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        tools:text="@string/SplashTitle" />

    <TextView
        android:id="@+id/textView3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="18dp"
        android:layout_marginTop="19dp"
        android:layout_marginEnd="19dp"
        android:layout_marginBottom="239dp"
        android:text="@string/Alumno2"
        android:textSize="24sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/textView2" />

    <TextView
        android:id="@+id/textView2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="29dp"
        android:layout_marginTop="76dp"
        android:layout_marginEnd="30dp"
        android:layout_marginBottom="19dp"
        android:text="@string/Alumno1"
        android:textSize="24sp"
        app:layout_constraintBottom_toTopOf="@+id/textView3"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/imageView" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

Login(100%)

LoginScreen.kt

```kotlin
package com.example.practico1_dsm

import android.content.Intent
import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle
import android.widget.Button
import android.widget.EditText
import android.widget.Toast
import com.google.firebase.auth.FirebaseAuth

class LoginScreen : AppCompatActivity() {

    private lateinit var auth: FirebaseAuth
    private lateinit var loginBtn: Button
    private lateinit var createBtn: Button
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_login_screen)

        auth = FirebaseAuth.getInstance()

        loginBtn = findViewById<Button>(R.id.loginGoBtn)

        loginBtn.setOnClickListener {
            val email =
findViewById<EditText>(R.id.nameRegisterTxt).text.toString()
            val password =
findViewById<EditText>(R.id.passwordRegisterTxt).text.toString()
            this.login(email, password);
        }

        createBtn = findViewById<Button>(R.id.goSignBtn)
        createBtn.setOnClickListener {
            this.goToRegister()
        }
    }

    private fun login(email: String, password: String){
        auth.signInWithEmailAndPassword(email,
password).addOnCompleteListener{ task ->
            if (task.isSuccessful){
                val intent = Intent(this, MainActivity::class.java)
                startActivity(intent)
                finish()
            }
        }.addOnFailureListener{exception ->
            Toast.makeText(applicationContext,
exception.localizedMessage, Toast.LENGTH_LONG).show()
        }
    }

    private fun goToRegister(){
        val intent = Intent(this, RegisterScreen::class.java)
        startActivity(intent)
    }

}
```

activity_login_screen.xml

```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"
    android:background="#00BCD4"
    tools:context=".LoginScreen">

    <Button
        android:id="@+id/goSignBtn"
        android:layout_width="356dp"
        android:layout_height="70dp"
        android:layout_marginStart="27dp"
        android:layout_marginTop="17dp"
        android:layout_marginEnd="28dp"
        android:layout_marginBottom="131dp"
        android:background="#00000000"
        android:fontFamily="sans-serif-condensed-medium"
        android:text="Create Account"
        android:textAllCaps="true"
        android:textSize="16sp"
        android:textStyle="bold"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/loginGoBtn" />

    <TextView
        android:id="@+id/textView8"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="27dp"
        android:layout_marginEnd="311dp"
        android:fontFamily="sans-serif-condensed-medium"
        android:text="Contraseña"
        android:textAllCaps="false"
        android:textColor="#000000"
        android:textSize="16sp"
        app:layout_constraintBottom_toTopOf="@+id/passwordRegisterTxt"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/nameRegisterTxt" />

    <EditText
        android:id="@+id/passwordRegisterTxt"
        android:layout_width="352dp"
        android:layout_height="52dp"
        android:layout_marginStart="27dp"
        android:layout_marginEnd="32dp"
        android:layout_marginBottom="59dp"
        android:ems="10"
        android:hint="Contraseña"
        android:inputType="textPersonName"
        app:layout_constraintBottom_toTopOf="@+id/loginGoBtn"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/textView8" />
```

```xml
<TextView
    android:id="@+id/textView4"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="27dp"
    android:layout_marginTop="53dp"
    android:layout_marginEnd="299dp"
    android:layout_marginBottom="126dp"
    android:fontFamily="sans-serif-condensed-medium"
    android:text="Login"
    android:textAllCaps="true"
    android:textColor="#000000"
    android:textSize="34sp"
    android:textStyle="bold"
    app:layout_constraintBottom_toTopOf="@+id/textView5"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />

<EditText
    android:id="@+id/nameRegisterTxt"
    android:layout_width="352dp"
    android:layout_height="52dp"
    android:layout_marginStart="27dp"
    android:layout_marginEnd="32dp"
    android:layout_marginBottom="12dp"
    android:ems="10"
    android:hint="Nombre"
    android:inputType="textPersonName"
    app:layout_constraintBottom_toTopOf="@+id/textView8"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/textView5" />

<TextView
    android:id="@+id/textView5"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="27dp"
    android:layout_marginEnd="336dp"
    android:fontFamily="sans-serif-condensed-medium"
    android:text="Usuario"
    android:textAllCaps="false"
    android:textColor="#000000"
    android:textSize="16sp"
    app:layout_constraintBottom_toTopOf="@+id/nameRegisterTxt"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/textView4" />

<Button
    android:id="@+id/loginGoBtn"
    android:layout_width="356dp"
    android:layout_height="70dp"
    android:layout_marginStart="27dp"
    android:layout_marginTop="20dp"
    android:layout_marginEnd="28dp"
    android:layout_marginBottom="18dp"
    android:background="#000000"
    android:backgroundTint="#000000"
```
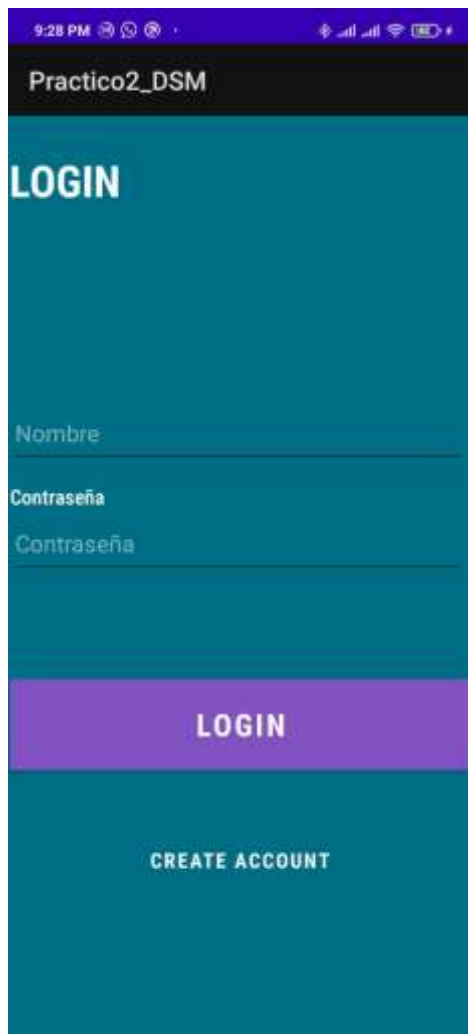
```
            android:backgroundTintMode="add"
            android:fontFamily="sans-serif-condensed-medium"
            android:text="Login"
            android:textAllCaps="true"
            android:textSize="24sp"
            android:textStyle="bold"
            app:layout_constraintBottom_toTopOf="@+id/goSignBtn"
            app:layout_constraintEnd_toEndOf="parent"
            app:layout_constraintStart_toStartOf="parent"
            app:layout_constraintTop_toBottomOf="@+id/passwordRegisterTxt"
/>

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

MainActivity.kt

```kotlin
package com.example.practico1_dsm

import android.content.Intent
import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle
import android.view.Menu
import android.view.MenuItem
import android.widget.Toast

class MainActivity : AppCompatActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)
    }

    override fun onCreateOptionsMenu(menu: Menu?): Boolean {
        menuInflater.inflate(R.menu.main_menu, menu)
        return super.onCreateOptionsMenu(menu)
    }

    override fun onOptionsItemSelected(item: MenuItem): Boolean {
        when(item.itemId){
            R.id.Home ->
Toast.makeText(this,"Home",Toast.LENGTH_SHORT).show()
            R.id.ejercicio1 -> startActivity(Intent(this,
Ejercicio1::class.java))
            R.id.ejercicio2 -> startActivity(Intent(this,
Ejercicio2::class.java))
            R.id.ejercicio3 -> startActivity(Intent(this,
Ejercicio3::class.java))

        }
        return super.onOptionsItemSelected(item)
    }
}
```

activity_main.xml

```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"
    android:background="@color/simplebackgroundcolor">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Home"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <ImageView
```

```
        android:id="@+id/imageView2"
        android:layout_width="394dp"
        android:layout_height="393dp"
        android:layout_marginStart="130dp"
        android:layout_marginTop="35dp"
        android:layout_marginEnd="131dp"
        android:layout_marginBottom="208dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="1.0"
        app:srcCompat="@drawable/iconoportada" />

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

Ejercicio 1(100%)

Ejercicio1.kt

```kotlin
package com.example.practico1_dsm

import android.app.Application
import android.content.Intent
import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle
import android.util.Log
import android.view.Menu
import android.view.MenuItem
import android.view.View
import android.view.ViewParent
import android.widget.AdapterView
import android.widget.ArrayAdapter
import android.widget.Button
import android.widget.EditText
import android.widget.ListView
import android.widget.Spinner
import android.widget.TextView
import android.widget.Toast
import kotlin.math.roundToInt
import com.google.firebase.database.*
import com.example.practico1_dsm.datos.Estudiantes

class Ejercicio1 : AppCompatActivity() {

    var consultaOrdenada:Query = refEstudiantes.orderByChild("nombre")
    var estudiantesLista:MutableList<Estudiantes>? = null
    var listaEstudiantes:ListView? = null

    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_ejercicio1)

        val nombre = findViewById<EditText>(R.id.txtNombre)
        val n1 = findViewById<EditText>(R.id.txtNota1)
        val n2 = findViewById<EditText>(R.id.txtNota2)
        val n3 = findViewById<EditText>(R.id.txtNota3)
        val n4 = findViewById<EditText>(R.id.txtNota4)
        val n5 = findViewById<EditText>(R.id.txtNota5)
        val btn_promedio = findViewById<Button>(R.id.btnPromedio)
        val btn_borrar = findViewById<Button>(R.id.eliminarBtn)
        val nota = findViewById<TextView>(R.id.txtPromedio)
        val aprobacion = findViewById<TextView>(R.id.txtAprobacion)
        val estudiantesSpinner =
findViewById<Spinner>(R.id.estudiantesSpinner);

        inicializar();

        btn_promedio.setOnClickListener{
            val promedio = (n1.text.toString().toDouble() +
n2.text.toString().toDouble() + n3.text.toString().toDouble() +
n4.text.toString().toDouble() + n5.text.toString().toDouble())/5
            nota.setText(
                "El promedio de " + nombre.text.toString() + " es: " +
((promedio * 100.0).roundToInt() / 100.0)
            )
            if (promedio.roundToInt() >= 6.0){
```

```kotlin
                aprobacion.setText("Aprobó")
            } else{
                aprobacion.setText("Reprobó")
            }
            guardar()
        }

        btn_borrar.setOnClickListener {
            var database:FirebaseDatabase =
FirebaseDatabase.getInstance()
            var refEstudiantes:DatabaseReference =
database.getReference("estudiantes")

            val nombreABorrar =
findViewById<EditText>(R.id.txtNombre).text.toString()
            if(nombreABorrar != null){
                refEstudiantes.child(nombreABorrar).removeValue();
                Toast.makeText(applicationContext, "Registro eliminado
correctamente", Toast.LENGTH_LONG);
            }else{
                Toast.makeText(applicationContext, "Antes de eliminar,
seleccione un registro", Toast.LENGTH_LONG);
            }
        }

        estudiantesSpinner.onItemSelectedListener = object :
AdapterView.OnItemSelectedListener{
            override fun onItemSelected(adapterView: AdapterView<*>?,
view: View?, position: Int, id: Long) {
                val estudianteSeleccionado =
adapterView?.getItemAtPosition(position).toString();
                val nombre = findViewById<EditText>(R.id.txtNombre)
                val n1 = findViewById<EditText>(R.id.txtNota1)
                val n2 = findViewById<EditText>(R.id.txtNota2)
                val n3 = findViewById<EditText>(R.id.txtNota3)
                val n4 = findViewById<EditText>(R.id.txtNota4)
                val n5 = findViewById<EditText>(R.id.txtNota5)
                val nota = findViewById<TextView>(R.id.txtPromedio)
                val aprobacion =
findViewById<TextView>(R.id.txtAprobacion)

                var database:FirebaseDatabase =
FirebaseDatabase.getInstance()
                var refEstudiantes:DatabaseReference =
database.getReference("estudiantes")

refEstudiantes.child(estudianteSeleccionado).get().addOnSuccessListene
r {
                    var nombreTemp = it.child("nombre").value;
                    var nota1Temp = it.child("nota1").value;
                    var nota2Temp = it.child("nota2").value;
                    var nota3Temp = it.child("nota3").value;
                    var nota4Temp = it.child("nota4").value;
                    var nota5Temp = it.child("nota5").value;
                    var notaTemp = it.child("nota").value;
                    var aprobacionTemp = it.child("aprobacion").value

                    nombre.setText(nombreTemp.toString())
                    n1.setText(nota1Temp.toString())
                    n2.setText(nota2Temp.toString())
```

```kotlin
                    n3.setText(nota3Temp.toString())
                    n4.setText(nota4Temp.toString())
                    n5.setText(nota5Temp.toString())
                    nota.text = notaTemp.toString()
                    aprobacion.text = aprobacionTemp.toString();
                }.addOnFailureListener{
                    Log.e("firebase", "Error getting data", it)
                }

            }

            override fun onNothingSelected(p0: AdapterView<*>?) {
                TODO("Not yet implemented")
            }

        }

    }

    fun guardar(){
        var database:FirebaseDatabase = FirebaseDatabase.getInstance()
        var refEstudiantes:DatabaseReference =
database.getReference("estudiantes")

        val nombre =
findViewById<EditText>(R.id.txtNombre).text.toString()
        val n1 =
findViewById<EditText>(R.id.txtNota1).text.toString().toDouble()
        val n2 =
findViewById<EditText>(R.id.txtNota2).text.toString().toDouble()
        val n3 =
findViewById<EditText>(R.id.txtNota3).text.toString().toDouble()
        val n4 =
findViewById<EditText>(R.id.txtNota4).text.toString().toDouble()
        val n5 =
findViewById<EditText>(R.id.txtNota5).text.toString().toDouble()
        val nota =
findViewById<TextView>(R.id.txtPromedio).text.toString()
        val aprobacion =
findViewById<TextView>(R.id.txtAprobacion).text.toString()

        val estudiante = Estudiantes(nombre, n1, n2, n3, n4, n5, nota,
aprobacion)

        refEstudiantes.child(nombre).get().addOnSuccessListener{
            if(it.value != null){
                val key = refEstudiantes.child("nombre").push().key
                if(key == null){
                    Toast.makeText(applicationContext, "Llave vacía",
Toast.LENGTH_SHORT).show()
                }
                val estudiantesValues = estudiante.toMap()
                val childUpdates = hashMapOf<String, Any>(
                    "$nombre" to estudiantesValues
                )
                refEstudiantes.updateChildren(childUpdates)
                Toast.makeText(applicationContext, "Registro
actualizado correctamente", Toast.LENGTH_LONG).show()
            }
            else{
                Toast.makeText(applicationContext, "No conseguimos
```

```kotlin
nada", Toast.LENGTH_LONG).show()

refEstudiantes.child(nombre).setValue(estudiante).addOnSuccessListener
{
                Toast.makeText(this, "El dato se guardó con
exito", Toast.LENGTH_LONG).show()
            }.addOnFailureListener{
                Toast.makeText(this, "Dato no almacenado, corrija
e intente de nuevo", Toast.LENGTH_LONG).show()
            }
        }
    }.addOnFailureListener{
        val temp = it
        Toast.makeText(applicationContext, "No conseguimos nada",
Toast.LENGTH_LONG).show()
        Toast.makeText(applicationContext, "Es: "+it,
Toast.LENGTH_LONG).show()
    }
}

private fun inicializar(){

    estudiantesLista = ArrayList<Estudiantes>()
    val estudiantesSpinner =
findViewById<Spinner>(R.id.estudiantesSpinner);
    var estudiantesArray = ArrayList<String>()

    consultaOrdenada.addValueEventListener(object :
ValueEventListener{
        override fun onDataChange(snapshot: DataSnapshot) {
            estudiantesLista!!.removeAll(estudiantesLista!!)
            for (dato in snapshot.children){
                val estudiante :Estudiantes? =
dato.getValue(Estudiantes::class.java)
                estudiante?.key(dato.key)
                if(estudiante != null){
                    estudiantesLista!!.add(estudiante)
                }
            }

estudiantesArray!!.removeAll(estudiantesArray!!.toSet())
            for(eS in estudiantesLista as ArrayList<Estudiantes>){
                eS.nombre?.let { estudiantesArray.add(it) };
            }
            val dataAdapter =
ArrayAdapter<String>(applicationContext,
android.R.layout.simple_spinner_item, estudiantesArray)

dataAdapter.setDropDownViewResource(android.R.layout.simple_spinner_dr
opdown_item);
            estudiantesSpinner.adapter = dataAdapter;
        }
        override fun onCancelled(error: DatabaseError) {
        }
    })
}

override fun onCreateOptionsMenu(menu: Menu?): Boolean {
    menuInflater.inflate(R.menu.main_menu, menu)
    return super.onCreateOptionsMenu(menu)
}
```

```
    override fun onOptionsItemSelected(item: MenuItem): Boolean {
        when(item.itemId){
            R.id.Home -> startActivity(Intent(this,
MainActivity::class.java))
            R.id.ejercicio1 -> Toast.makeText(this,"Ejercicio 1",
Toast.LENGTH_SHORT).show()
            R.id.ejercicio2 -> startActivity(Intent(this,
Ejercicio2::class.java))
            R.id.ejercicio3 -> startActivity(Intent(this,
Ejercicio3::class.java))
        }
        return super.onOptionsItemSelected(item)
    }

    companion object{
        var database:FirebaseDatabase = FirebaseDatabase.getInstance()
        var refEstudiantes:DatabaseReference =
database.getReference("estudiantes")
    }
}
```

Ejercicio1.xml

```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=".Ejercicio1"
    android:background="@color/simplebackgroundcolor">

    <LinearLayout
        android:layout_width="409dp"
        android:layout_height="729dp"
        android:orientation="vertical"
        tools:layout_editor_absoluteX="1dp"
        tools:layout_editor_absoluteY="1dp"
        tools:ignore="MissingConstraints">

        <TextView
            android:id="@+id/textView6"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text=" " />

        <TextView
            android:id="@+id/txtTitulo"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="PROMEDIO DE ESTUDIANTE"
            android:textAlignment="center"
            android:textColor="#fff"
            android:textSize="24sp" />

        <EditText
            android:id="@+id/txtNombre"
            android:layout_width="match_parent"
```

```xml
        android:layout_height="wrap_content"
        android:ems="10"
        android:hint="Digite su nombre"
        android:inputType="textPersonName"
        android:textColor="#fff" />

    <EditText
        android:id="@+id/txtNota1"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:ems="10"
        android:hint="Digite la nota 1"
        android:inputType="numberDecimal"
        android:textColor="#fff" />

    <EditText
        android:id="@+id/txtNota2"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:ems="10"
        android:hint="Digite la nota 2"
        android:inputType="numberDecimal"
        android:textColor="#fff" />

    <EditText
        android:id="@+id/txtNota3"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:ems="10"
        android:hint="Digite la nota 3"
        android:inputType="numberDecimal"
        android:textColor="#fff" />

    <EditText
        android:id="@+id/txtNota4"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:ems="10"
        android:hint="Digite la nota 4"
        android:inputType="numberDecimal"
        android:textColor="#fff" />

    <EditText
        android:id="@+id/txtNota5"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:ems="10"
        android:hint="Digite la nota 5"
        android:inputType="numberDecimal"
        android:textColor="#fff" />

    <Button
        android:id="@+id/btnPromedio"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Calcular" />

    <Spinner
        android:id="@+id/estudiantesSpinner"
        android:layout_width="349dp"
        android:layout_height="42dp" />
```

```xml
        <LinearLayout
            android:layout_width="match_parent"
            android:layout_height="48dp"
            android:orientation="horizontal">

            <Button
                android:id="@+id/eliminarBtn"
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:layout_weight="1"
                android:text="Eliminar Registro" />
        </LinearLayout>

        <TextView
            android:id="@+id/txtPromedio"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:textAlignment="center"
            android:textColor="#fff"
            android:textSize="16sp" />

        <TextView
            android:id="@+id/txtAprobacion"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:textAlignment="center"
            android:textColor="#fff"
            android:textSize="16sp" />

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

Estudiantes.kt

```kotlin
package com.example.practico1_dsm.datos

class Estudiantes {
    fun key(key: String?){
    }

    var nombre: String? = null
    var nota1: Double? = null
    var nota2: Double? = null
    var nota3: Double? = null
    var nota4: Double? = null
    var nota5: Double? = null
    var nota: String? = null
    var aprobacion: String? = null
    var key: String? = null
    var est: MutableMap<String, Boolean> = HashMap()


    constructor(){}
    constructor(nombre: String?, nota1: Double?, nota2: Double?,
nota3: Double?, nota4: Double?, nota5: Double?, nota:String?,
aprobacion: String?){
        this.nombre = nombre;
        this.nota1 = nota1;
        this.nota2 = nota2;
        this.nota3 = nota3;
```

```kotlin
        this.nota4 = nota4;
        this.nota5 = nota5;
        this.nota = nota
        this.aprobacion = aprobacion
    }

    fun toMap(): Map<String, Any?>{
        return mapOf(
            "nombre" to nombre,
            "nota1" to nota1,
            "nota2" to nota2,
            "nota3" to nota3,
            "nota4" to nota4,
            "nota5" to nota5,
            "nota" to nota,
            "aprobacion" to aprobacion,
            "key" to key,
            "est" to est
        )
    }
}
```

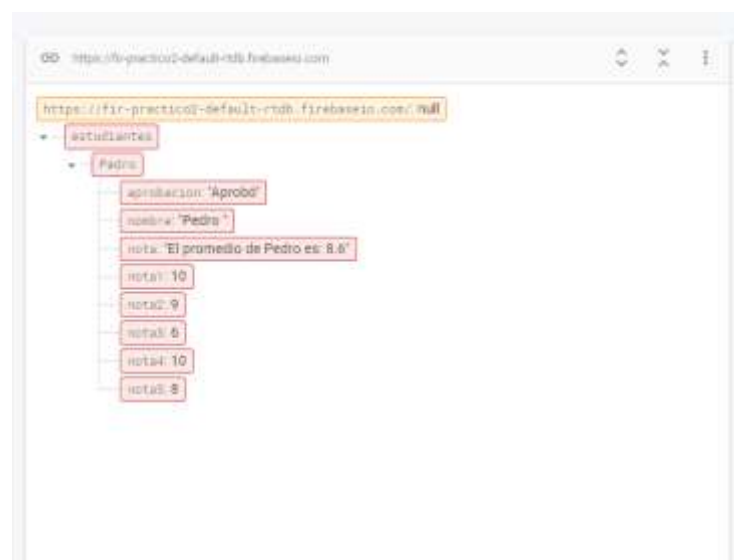**Eliminamos el registro dando click en eliminar registro**

Ejercicio 2(100%)

Ejercicio2.kt

```kotlin
package com.example.practico1_dsm

import android.content.DialogInterface
import android.content.Intent
import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle
import android.view.Menu
import android.view.MenuItem
import android.view.View
import android.widget.*
import androidx.appcompat.app.AlertDialog
import com.google.firebase.database.DatabaseReference
import com.google.firebase.database.FirebaseDatabase
import com.google.firebase.ktx.Firebase
import kotlin.math.roundToInt
import com.google.firebase.database.*
import com.example.practico1_dsm.datos.Empleados


class Ejercicio2 : AppCompatActivity() {

    var consultaOrdenada:Query =
refEmpleados.orderByChild("empNombre")
    var EmpleadosLista:MutableList<Empleados>? = null
    var listaEmpleados: ListView? = null


    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_ejercicio2)

        val listaEmpleados =
findViewById<ListView>(R.id.ListaEmpleados)
        val btnSalario = findViewById<Button>(R.id.btnSalario)

        inicializar();

        btnSalario.setOnClickListener{

            guardar();
        }


    }


    private fun guardar() {
        var database:FirebaseDatabase = FirebaseDatabase.getInstance()
        var refEmpleados:DatabaseReference =
database.getReference("Empleados")

        val nombre =
findViewById<EditText>(R.id.txtNombre).text.toString()
        val salarioBase =
findViewById<EditText>(R.id.txtSalarioBase).text.toString().toDouble()

        val ISSS = salarioBase - (salarioBase * 0.97)
```

```kotlin
        val AFP =  salarioBase - (salarioBase * 0.96)
        val RENTA = salarioBase - (salarioBase * 0.95)
        val salarioNeto = salarioBase - ISSS - AFP - RENTA

        val empleado = Empleados(nombre,salarioNeto)

        refEmpleados.child(nombre).get().addOnSuccessListener{
            if(it.value != null){
                val key = refEmpleados.child("epmNombre").push().key
                if(key == null){
                    Toast.makeText(applicationContext, "Llave vacía",
Toast.LENGTH_SHORT).show()
                }
                val empleadosValues = empleado.toMap()
                val childUpdates = hashMapOf<String, Any>(
                    "$nombre" to empleadosValues
                )
                refEmpleados.updateChildren(childUpdates)
                Toast.makeText(applicationContext, "Registro
actualizado correctamente", Toast.LENGTH_LONG).show()
            }
            else{

refEmpleados.child(nombre).setValue(empleado).addOnSuccessListener {
                    Toast.makeText(this, "El dato se guardó con
exito", Toast.LENGTH_LONG).show()
                }.addOnFailureListener{
                    Toast.makeText(this, "Dato no almacenado, corrija
e intente de nuevo", Toast.LENGTH_LONG).show()
                }
            }
        }.addOnFailureListener{
            val temp = it
            Toast.makeText(applicationContext, "No conseguimos nada",
Toast.LENGTH_LONG).show()
            Toast.makeText(applicationContext, "Es: "+it,
Toast.LENGTH_LONG).show()
        }

    }
    private fun inicializar() {
        EmpleadosLista = ArrayList<Empleados>()
        val listaEmpleados =
findViewById<ListView>(R.id.ListaEmpleados);
        var EmpleadosArray = ArrayList<String>()

        consultaOrdenada.addValueEventListener(object :
ValueEventListener{
            override fun onDataChange(snapshot: DataSnapshot) {
                EmpleadosLista!!.removeAll( EmpleadosLista!!)
                for (dato in snapshot.children){
                    val empleado :Empleados? =
dato.getValue(Empleados::class.java)
                    empleado?.key(dato.key)
                    if(empleado != null){
                        EmpleadosLista!!.add(empleado)
                    }
                }
                val Adapter =
AdaptadorEmpleado(this@Ejercicio2,EmpleadosLista as
ArrayList<Empleados>)
```

```kotlin
                listaEmpleados!!.adapter = Adapter
            }
            override fun onCancelled(error: DatabaseError) {
            }
        })
        listaEmpleados!!.onItemLongClickListener = object :
AdapterView.OnItemLongClickListener {
            override fun onItemLongClick(
                adapterView: AdapterView<*>?,
                view: View,
                position: Int,
                l: Long
            ): Boolean {

                val ad = AlertDialog.Builder(this@Ejercicio2)
                ad.setMessage("Está seguro de eliminar registro?")
                    .setTitle("Confirmación")
                ad.setPositiveButton("Si"
                ) { dialog, id ->
                    EmpleadosLista!![position].nombre?.let {
                        refEmpleados.child(it).removeValue()
                    }
                    Toast.makeText(
                        this@Ejercicio2,
                        "Registro borrado!", Toast.LENGTH_SHORT
                    ).show()
                }
                ad.setNegativeButton("No", object :
DialogInterface.OnClickListener {
                    override fun onClick(dialog: DialogInterface, id:
Int) {

                        Toast.makeText(
                            this@Ejercicio2,
                            "Operación de borrado cancelada!",
Toast.LENGTH_SHORT
                        ).show()
                    }
                })
                ad.show()
                return true
            }

        }

    }


    override fun onCreateOptionsMenu(menu: Menu?): Boolean {
        menuInflater.inflate(R.menu.main_menu, menu)
        return super.onCreateOptionsMenu(menu)
    }

    override fun onOptionsItemSelected(item: MenuItem): Boolean {
        when(item.itemId){
            R.id.Home -> startActivity(Intent(this,
MainActivity::class.java))
            R.id.ejercicio1 -> startActivity(Intent(this,
Ejercicio1::class.java))
            R.id.ejercicio2 -> Toast.makeText(this,"Ejercicio 2",
Toast.LENGTH_SHORT).show()
```

```
            R.id.ejercicio3 -> startActivity(Intent(this,
Ejercicio3::class.java))

        }
        return super.onOptionsItemSelected(item)
    }
    companion object{
        var database:FirebaseDatabase = FirebaseDatabase.getInstance()
        var refEmpleados:DatabaseReference =
database.getReference("Empleados")
    }

}
```

activity_ejercicio2.xml

```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=".Ejercicio2"
    android:background="@color/simplebackgroundcolor">

    <LinearLayout
        android:layout_width="409dp"
        android:layout_height="729dp"
        android:orientation="vertical"
        tools:layout_editor_absoluteX="1dp"
        tools:layout_editor_absoluteY="1dp"
        tools:ignore="MissingConstraints">

        <TextView
            android:id="@+id/labelNumberTxt1"
            android:layout_width="match_parent"
            android:layout_height="wrap_content" />

        <TextView
            android:id="@+id/labelNumberTxt2"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="SALARIO NETO"
            android:textAlignment="center"
            android:textColor="#fff"
            android:textSize="24sp" />

        <EditText
            android:id="@+id/txtNombre"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:ems="10"
            android:inputType="textPersonName"
            android:textColor="#fff" />

        <EditText
```

```xml
        android:id="@+id/txtSalarioBase"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:ems="10"
        android:inputType="numberDecimal"
        android:textColor="#fff" />

    <Button
        android:id="@+id/btnSalario"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Calcular salario" />

    <TextView
        android:id="@+id/txtISSS"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:textAlignment="center"
        android:textColor="#FFF"
        android:textSize="16sp" />

    <TextView
        android:id="@+id/textView6"
        android:layout_width="match_parent"
        android:layout_height="wrap_content" />

    <TextView
        android:id="@+id/txtAFP"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:textAlignment="center"
        android:textColor="#FFF"
        android:textSize="16sp" />

    <TextView
        android:id="@+id/textView7"
        android:layout_width="match_parent"
        android:layout_height="wrap_content" />

    <TextView
        android:id="@+id/txtRENTA"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:textAlignment="center"
        android:textColor="#FFF"
        android:textSize="16sp" />

    <TextView
        android:id="@+id/textView9"
        android:layout_width="match_parent"
        android:layout_height="wrap_content" />

    <TextView
        android:id="@+id/txtResultadoSalario"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:textAlignment="center"
        android:textColor="#fff"
        android:textSize="20sp" />

    <ListView
```

```
            android:id="@+id/ListaEmpleados"
            android:layout_width="match_parent"
            android:layout_height="match_parent" />


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

Empleados.kt

```kotlin
package com.example.practico1_dsm.datos

class Empleados {
    fun key(key: String?){
    }

    var nombre: String? = null
    var SalarioNeto: Double? = null
    var key: String? = null
    var est: MutableMap<String, Boolean> = HashMap()

    constructor(){}
    constructor(nombre: String?,salarioneto: Double?){
        this.nombre = nombre;
        this.SalarioNeto = salarioneto;
    }

    fun toMap(): Map<String, Any?>{
        return mapOf(
            "nombre" to nombre,
            "salarioneto" to SalarioNeto,
            "key" to key,
            "est" to est
        )
    }
}
```

empleados_layout.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    android:orientation="vertical" android:layout_width="match_parent"
    android:layout_margin="10dp"

    android:layout_height="wrap_content">

    <TextView
        android:id="@+id/tvNombre"
        android:background="#ffffff"
        android:layout_margin="5dp"
        android:textSize="18sp"
        android:textColor="@color/black"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"/>

    <TextView
        android:id="@+id/tvSalarioNeto"
        android:background="#ffffff"
        android:layout_margin="5dp"
```

```xml
            android:textSize="18sp"
            android:textColor="@color/cardview_light_background"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"/>



</LinearLayout>
```

AdaptadorEmpleado.kt

```kotlin
package com.example.practico1_dsm
import android.app.Activity
import android.view.View
import android.view.ViewGroup
import android.widget.ArrayAdapter
import android.widget.TextView
import  com.example.practico1_dsm.datos.Empleados


    class AdaptadorEmpleado(private val context: Activity, var
empleados: List<Empleados>) :
        ArrayAdapter<Empleados?>(context, R.layout.empleados_layout,
empleados) {
        override fun getView(position: Int, view: View?, parent:
ViewGroup): View {

            val layoutInflater = context.layoutInflater
            var rowview: View? = null

            rowview = view ?:
layoutInflater.inflate(R.layout.empleados_layout, null)
            val tvSalarioNeto =
rowview!!.findViewById<TextView>(R.id.tvSalarioNeto)
            val tvNombre =
rowview.findViewById<TextView>(R.id.tvNombre)
            tvNombre.text = "Nombre : " + empleados[position].nombre
            tvSalarioNeto.text = "Salario Neto : " +
empleados[position].SalarioNeto
            return rowview
        }
    }
```