Министерство образования и молодежной политики Свердловской области



ГАПОУ СО «Екатеринбургский колледж транспортного строительства»

Отчёт по программе «Практическое занятие 22.2»

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Группа: ПР-32

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**Задание:**

8 Приложение «Поиск рецептов» Spoonacular API (https://spoonacular.com)

**Входные и выходные данные**

val url = "https://api.spoonacular.com/recipes/complexSearch?query=$dish1&maxFat=$maxFat1&number=$numberRes1&apiKey=$key"

private lateinit var login: EditText  
private lateinit var password: EditText

private lateinit var dish: EditText  
private lateinit var maxFat: EditText  
private lateinit var numberRes: EditText

**Листинг программы (если есть)**

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=".Coock\_Activity">  
  
 <EditText  
 android:id="@+id/dish"  
 android:layout\_marginTop="10dp"  
 android:layout\_width="350dp"  
 android:layout\_height="50dp"  
 android:background="@drawable/rounded"  
 android:hint="@string/dishName"  
 android:padding="10dp"  
 android:textSize="18sp"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent" />  
  
 <EditText  
 android:id="@+id/maxfat"  
 android:layout\_width="350dp"  
 android:layout\_height="50dp"  
 android:background="@drawable/rounded"  
 android:hint="@string/max\_number\_fat"  
 android:padding="10dp"  
 android:textSize="18sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/dish"  
 app:layout\_constraintVertical\_bias="0.027" />  
  
 <EditText  
 android:id="@+id/number\_res"  
 android:layout\_width="350dp"  
 android:layout\_height="50dp"  
 android:background="@drawable/rounded"  
 android:hint="@string/number\_recipes"  
 android:padding="10dp"  
 android:textSize="18sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/maxfat"  
 app:layout\_constraintVertical\_bias="0.027" />  
  
 <Button  
 android:id="@+id/button"  
 android:layout\_width="350dp"  
 android:layout\_height="50dp"  
 android:background="@drawable/rounded"  
 android:text="@string/output"  
 android:textAllCaps="false"  
 android:textSize="18sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/number\_res"  
 app:layout\_constraintVertical\_bias="0.027"/>  
  
 <Button  
 android:id="@+id/saveButton"  
 android:layout\_width="350dp"  
 android:layout\_height="50dp"  
 android:background="@drawable/rounded"  
 android:text="@string/save"  
 android:textAllCaps="false"  
 android:textSize="18sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.491"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/button"  
 app:layout\_constraintVertical\_bias="0.027" />  
  
 <androidx.recyclerview.widget.RecyclerView  
 android:id="@+id/recycleview"  
 android:layout\_width="match\_parent"  
 android:layout\_height="350dp"  
 android:padding="0dp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/saveButton">  
 </androidx.recyclerview.widget.RecyclerView>  
  
  
</androidx.constraintlayout.widget.ConstraintLayout>

<?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="@drawable/back"  
 tools:context=".Reg\_Activity">  
  
 <ImageView  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:background="@drawable/food\_ic"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.033" />  
  
 <EditText  
 android:id="@+id/editLogin"  
 android:layout\_width="350dp"  
 android:layout\_height="50dp"  
 android:layout\_marginTop="400dp"  
 android:padding="10dp"  
 android:hint="@string/login"  
 android:textSize="18sp"  
 android:inputType="text"  
 android:background="@drawable/rounded"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent" />  
  
 <EditText  
 android:id="@+id/editPassword"  
 android:layout\_width="350dp"  
 android:layout\_height="50dp"  
 android:layout\_marginTop="30dp"  
 android:padding="10dp"  
 android:hint="@string/password"  
 android:textSize="18sp"  
 android:inputType="textPassword"  
 android:background="@drawable/rounded"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/editLogin" />  
  
 <Button  
 android:id="@+id/button"  
 android:layout\_width="350dp"  
 android:layout\_height="50dp"  
 android:background="@drawable/rounded"  
 android:text="@string/registration"  
 android:textAllCaps="false"  
 android:textSize="18sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/editPassword"  
 app:layout\_constraintVertical\_bias="0.523" />  
  
</androidx.constraintlayout.widget.ConstraintLayout>

<?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=".RoomActivity">  
  
 <EditText  
 android:id="@+id/searchEditText"  
 android:layout\_width="match\_parent"  
 android:layout\_height="30dp"  
 android:layout\_marginStart="10dp"  
 android:layout\_marginTop="20dp"  
 android:layout\_marginEnd="50dp"  
 android:paddingStart="10dp"  
 android:background="@drawable/rounded"  
 android:hint="@string/find"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent" />  
  
 <Button  
 android:id="@+id/find\_button"  
 android:layout\_width="30dp"  
 android:layout\_height="30dp"  
 android:layout\_marginTop="20dp"  
 android:layout\_marginEnd="10dp"  
 android:background="@drawable/find\_ic"  
 android:backgroundTint="@color/white"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent" />  
  
 <androidx.recyclerview.widget.RecyclerView  
 android:id="@+id/recycleView"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:layout\_marginTop="50dp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toBottomOf="@+id/searchEditText">  
  
 </androidx.recyclerview.widget.RecyclerView>  
  
  
</androidx.constraintlayout.widget.ConstraintLayout>

<LinearLayout  
 xmlns:android="http://schemas.android.com/apk/res/android"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:orientation="horizontal"  
 android:padding="8dp"  
 android:layout\_margin="0dp">  
  
 <ImageView  
 android:id="@+id/image"  
 android:layout\_width="100dp"  
 android:layout\_height="100dp"/>  
  
 <LinearLayout  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:orientation="vertical"  
 android:padding="8dp"  
 android:layout\_margin="0dp">  
 <TextView  
 android:id="@+id/title"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Title" />  
  
 <TextView  
 android:id="@+id/fat"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Fat: 10g" />  
 </LinearLayout>  
  
</LinearLayout>

Class:

package com.example.prak22\_2  
  
import android.annotation.SuppressLint  
import android.content.Intent  
import android.graphics.Color  
import androidx.appcompat.app.AppCompatActivity  
import android.os.Bundle  
import android.util.Log  
import android.widget.Button  
import android.widget.EditText  
import android.widget.Toast  
import androidx.recyclerview.widget.LinearLayoutManager  
import androidx.recyclerview.widget.RecyclerView  
import com.android.volley.Request  
import com.android.volley.toolbox.StringRequest  
import com.android.volley.toolbox.Volley  
import com.example.prak22\_2.room.AppDatabase  
import com.example.prak22\_2.room.Recipe  
import com.google.android.material.snackbar.Snackbar  
import kotlinx.coroutines.CoroutineScope  
import kotlinx.coroutines.Dispatchers  
import kotlinx.coroutines.launch  
import org.json.JSONObject  
  
class Coock\_Activity : AppCompatActivity() {  
 private lateinit var dish: EditText  
 private lateinit var maxFat: EditText  
 private lateinit var numberRes: EditText  
 private lateinit var button: Button  
 private lateinit var saveButton: Button  
  
 private lateinit var newRecyclerView: RecyclerView  
 private lateinit var newArrayList: ArrayList<item>  
 lateinit var title\_new : ArrayList<String>  
 lateinit var fat\_new : ArrayList<String>  
 lateinit var image\_new : ArrayList<String>  
  
 @SuppressLint("MissingInflatedId")  
 override fun onCreate(savedInstanceState: Bundle?) {  
 super.onCreate(savedInstanceState)  
 setContentView(R.layout.*activity\_coock*)  
 dish = findViewById(R.id.*dish*)  
 maxFat = findViewById(R.id.*maxfat*)  
 numberRes = findViewById(R.id.*number\_res*)  
 button = findViewById(R.id.*button*)  
 saveButton = findViewById(R.id.*saveButton*)  
  
 newRecyclerView = findViewById(R.id.*recycleview*)  
 newRecyclerView.*layoutManager* = LinearLayoutManager(this)  
 newRecyclerView.setHasFixedSize(true)  
  
 button.setOnClickListener **{** getResult(dish.*text*.toString(), maxFat.*text*.toString(), numberRes.*text*.toString())  
 **}** saveButton.setOnClickListener **{** if (title\_new.*isNotEmpty*() && fat\_new.*isNotEmpty*() && image\_new.*isNotEmpty*()) {  
 val recipe = Recipe(title = title\_new[0], fat = fat\_new[0], image = image\_new[0])  
 *CoroutineScope*(Dispatchers.IO).*launch* **{** val db = AppDatabase.getDatabase(this@Coock\_Activity)  
 db.recipesDao().insert(recipe)  
 **}** val intent = Intent(this, RoomActivity::class.*java*)  
 startActivity(intent)  
 } else {  
 Toast.makeText(this, "No recipes to save", Toast.*LENGTH\_SHORT*).show()  
 }  
 **}** }  
 fun getResult(dish1: String, maxFat1: String, numberRes1: String) {  
 if (dish1.*isNotEmpty*() && maxFat1.*isNotEmpty*() && numberRes1.*isNotEmpty*()) {  
 val key = "868a8609fd9142aa89a07ae3b8b2f282"  
 val url = "https://api.spoonacular.com/recipes/complexSearch?query=$dish1&maxFat=$maxFat1&number=$numberRes1&apiKey=$key"  
 val queue = Volley.newRequestQueue(this)  
  
 val stringRequest = StringRequest(  
 Request.Method.*GET*,  
 url,  
 **{** response **->** val obj = JSONObject(response)  
 val results = obj.getJSONArray("results")  
  
 title\_new = ArrayList()  
 fat\_new = ArrayList()  
 image\_new = ArrayList()  
  
 // Prepare a list to hold recipes to insert  
 val recipesToInsert = *mutableListOf*<Recipe>()  
  
 for (i in 0 *until* results.length()) {  
 val recipe = results.getJSONObject(i)  
 val title = recipe.getString("title")  
 val image = recipe.getString("image")  
 val nutrition = recipe.getJSONObject("nutrition")  
 val nutrients = nutrition.getJSONArray("nutrients")  
 val fat = nutrients.getJSONObject(0).getDouble("amount").toString()  
  
 title\_new.add(title)  
 fat\_new.add(fat)  
 image\_new.add(image)  
  
 // Create a Recipe object and add to the list for DB insertion  
 recipesToInsert.add(Recipe(title = title, fat = fat, image = image))  
  
 Log.d("Mylog", "Рецепт: $title, Жиры: $fat, Картинка: $image")  
 }  
 // Save recipes to the database  
 saveRecipesToDatabase(recipesToInsert)  
 newArrayList = *arrayListOf*()  
 getUserData()  
 **}**,  
 **{** error **->** Log.d("Mylog", "Volley error: ${error.message}")  
 Toast.makeText(this, "Ошибка получения данных: ${error.message}", Toast.*LENGTH\_SHORT*).show()  
 **}** )  
 queue.add(stringRequest)  
 } else {  
 val sn = Snackbar.make(findViewById(android.R.id.*content*), "Заполните все поля", Snackbar.*LENGTH\_LONG*)  
 sn.setActionTextColor(Color.*BLUE*)  
 sn.show()  
 }  
 }  
  
 private fun saveRecipesToDatabase(recipes: List<Recipe>) {  
 *CoroutineScope*(Dispatchers.IO).*launch* **{** val db = AppDatabase.getDatabase(this@Coock\_Activity)  
 recipes.*forEach* **{** recipe **->** db.recipesDao().insert(recipe)  
 **}  
 }** }  
  
  
 private fun getUserData() {  
 for(i in title\_new.*indices*) {  
 val items = item(image\_new[i], title\_new[i], fat\_new[i])  
 newArrayList.add(items)  
 }  
 newRecyclerView.*adapter* = MyAdapter(newArrayList)  
 }  
}

package com.example.prak22\_2  
  
import android.annotation.SuppressLint  
import android.os.Bundle  
import android.widget.Button  
import android.widget.EditText  
import androidx.appcompat.app.AppCompatActivity  
import androidx.recyclerview.widget.LinearLayoutManager  
import androidx.recyclerview.widget.RecyclerView  
import com.example.prak22\_2.room.AppDatabase  
import kotlinx.coroutines.CoroutineScope  
import kotlinx.coroutines.Dispatchers  
import kotlinx.coroutines.launch  
import kotlinx.coroutines.withContext  
  
class RoomActivity : AppCompatActivity() {  
 private lateinit var database: AppDatabase  
 private lateinit var searchEditText: EditText  
 private lateinit var searchButton: Button  
 private lateinit var recyclerView: RecyclerView  
 private lateinit var adapter: MyAdapter  
 private var itemList: ArrayList<item> = *arrayListOf*()  
  
 override fun onCreate(savedInstanceState: Bundle?) {  
 super.onCreate(savedInstanceState)  
 setContentView(R.layout.*activity\_room*)  
  
 database = AppDatabase.getDatabase(this)  
  
 searchEditText = findViewById(R.id.*searchEditText*)  
 searchButton = findViewById(R.id.*find\_button*)  
 recyclerView = findViewById(R.id.*recycleView*)  
  
 adapter = MyAdapter(itemList)  
 recyclerView.*layoutManager* = LinearLayoutManager(this)  
 recyclerView.*adapter* = adapter  
 loadAllRecipes()  
  
 searchButton.setOnClickListener **{** val query = searchEditText.*text*.toString()  
 if (query.*isNotEmpty*()) {  
 searchRecipes(query)  
 } else {  
 loadAllRecipes()  
 }  
 **}** }  
  
 private fun loadAllRecipes() {  
 *CoroutineScope*(Dispatchers.IO).*launch* **{** val recipes = database.recipesDao().getAllRecipes()  
  
 itemList.clear()  
 recipes.*forEach* **{** recipe **->** val newItem = item(  
 image = recipe.image,  
 title = recipe.title,  
 fat = recipe.fat  
 )  
 itemList.add(newItem)  
 **}** withContext(Dispatchers.Main) **{** adapter.notifyDataSetChanged()  
 **}  
 }** }  
  
 private fun searchRecipes(title: String) {  
 *CoroutineScope*(Dispatchers.IO).*launch* **{** val recipes = database.recipesDao().searchRecipesByTitle(title)  
  
 itemList.clear()  
 recipes.*forEach* **{** recipe **->** val newItem = item(  
 image = recipe.image,  
 title = recipe.title,  
 fat = recipe.fat  
 )  
 itemList.add(newItem)  
 **}** withContext(Dispatchers.Main) **{** adapter.notifyDataSetChanged()  
 **}  
 }** }  
}

package com.example.prak22\_2  
  
import android.annotation.SuppressLint  
import android.content.Context  
import android.content.Intent  
import androidx.appcompat.app.AppCompatActivity  
import android.os.Bundle  
import android.view.Gravity  
import android.widget.Button  
import android.widget.EditText  
import android.widget.Toast  
import androidx.recyclerview.widget.RecyclerView  
  
class Reg\_Activity : AppCompatActivity() {  
 private lateinit var login: EditText  
 private lateinit var password: EditText  
 private lateinit var reg\_but: Button  
 @SuppressLint("MissingInflatedId")  
 override fun onCreate(savedInstanceState: Bundle?) {  
 super.onCreate(savedInstanceState)  
 setContentView(R.layout.*activity\_reg*)  
 login = findViewById(R.id.*editLogin*)  
 password = findViewById(R.id.*editPassword*)  
 reg\_but = findViewById(R.id.*button*)  
  
 loadLoginData()  
  
 reg\_but.setOnClickListener **{** if(login.*text*.toString().*isNotEmpty*() && password.*text*.toString().*isNotEmpty*()){  
 saveLoginData(login.*text*.toString(), password.*text*.toString())  
 val intent = Intent(this@Reg\_Activity, Coock\_Activity::class.*java*)  
 startActivity(intent)  
 } else {  
 val text = "Заполните все поля!"  
 val toast = Toast.makeText(*applicationContext*, text, Toast.*LENGTH\_SHORT*)  
 toast.setGravity(Gravity.*CENTER*, 0, 0)  
 toast.show()  
 }  
 **}** }  
  
 private fun saveLoginData(login: String, password: String) {  
 val sharedPreferences = getSharedPreferences("UserPrefs", Context.*MODE\_PRIVATE*)  
 val editor = sharedPreferences.edit()  
 editor.putString("LOGIN", login)  
 editor.putString("PASSWORD", password)  
 editor.apply()  
 }  
  
 private fun loadLoginData() {  
 val sharedPreferences = getSharedPreferences("UserPrefs", Context.*MODE\_PRIVATE*)  
 val savedLogin = sharedPreferences.getString("LOGIN", null)  
 val savedPassword = sharedPreferences.getString("PASSWORD", null)  
  
 if (savedLogin != null && savedPassword != null) {  
 login.setText(savedLogin)  
 password.setText(savedPassword)  
 }  
 }  
}

package com.example.prak22\_2  
  
data class item(val image: String, val title: String, val fat: String)

Adapter:

package com.example.prak22\_2  
  
import android.view.LayoutInflater  
import android.view.View  
import android.view.ViewGroup  
import android.widget.ImageView  
import android.widget.TextView  
import androidx.recyclerview.widget.RecyclerView  
import com.bumptech.glide.Glide  
  
class MyAdapter(private val recipes\_list: ArrayList<item>) : RecyclerView.Adapter<MyAdapter.MyViewHolder>() {  
  
 override fun onCreateViewHolder(parent: ViewGroup, viewType: Int): MyViewHolder {  
 val itemView = LayoutInflater.from(parent.*context*).inflate(R.layout.*item\_view*, parent, false)  
 return MyViewHolder(itemView)  
 }  
  
 override fun onBindViewHolder(holder: MyViewHolder, position: Int) {  
 val currentItem = recipes\_list[position]  
 Glide.with(holder.image.*context*)  
 .load(currentItem.image)  
 .into(holder.image)  
  
 holder.title.*text* = currentItem.title  
 holder.fat.*text* = "Жиры: ${currentItem.fat} г"  
 }  
  
 override fun getItemCount(): Int {  
 return recipes\_list.size  
 }  
  
 class MyViewHolder(itemView: View) : RecyclerView.ViewHolder(itemView) {  
 val image: ImageView = itemView.findViewById(R.id.*image*)  
 val title: TextView = itemView.findViewById(R.id.*title*)  
 val fat: TextView = itemView.findViewById(R.id.*fat*)  
 }  
}

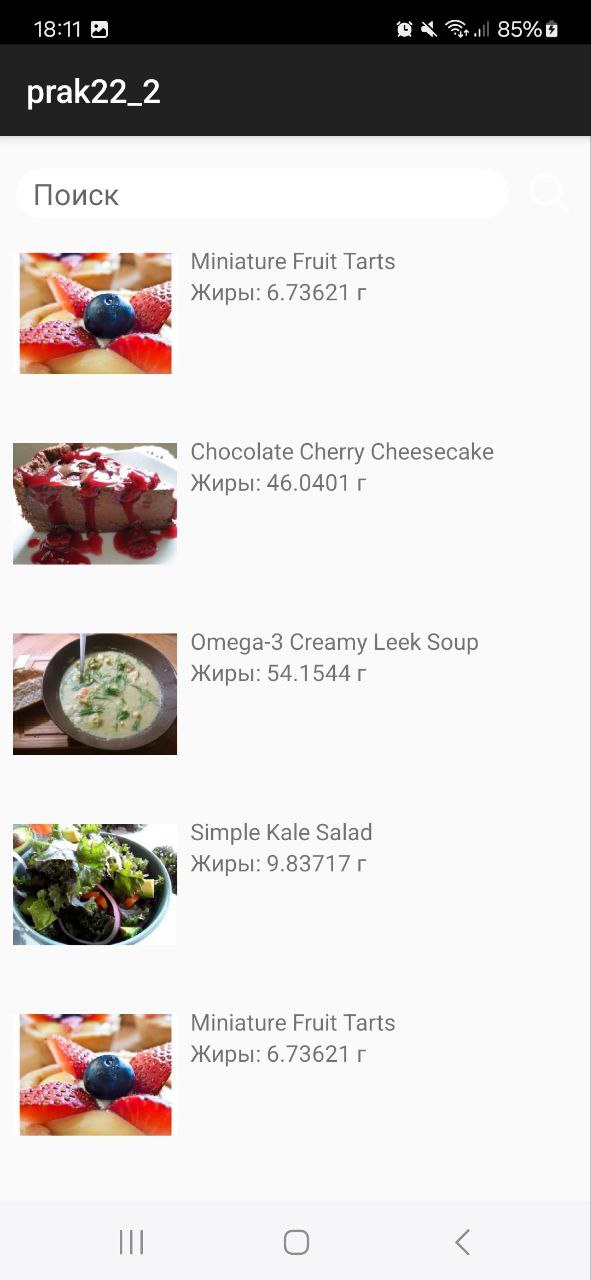
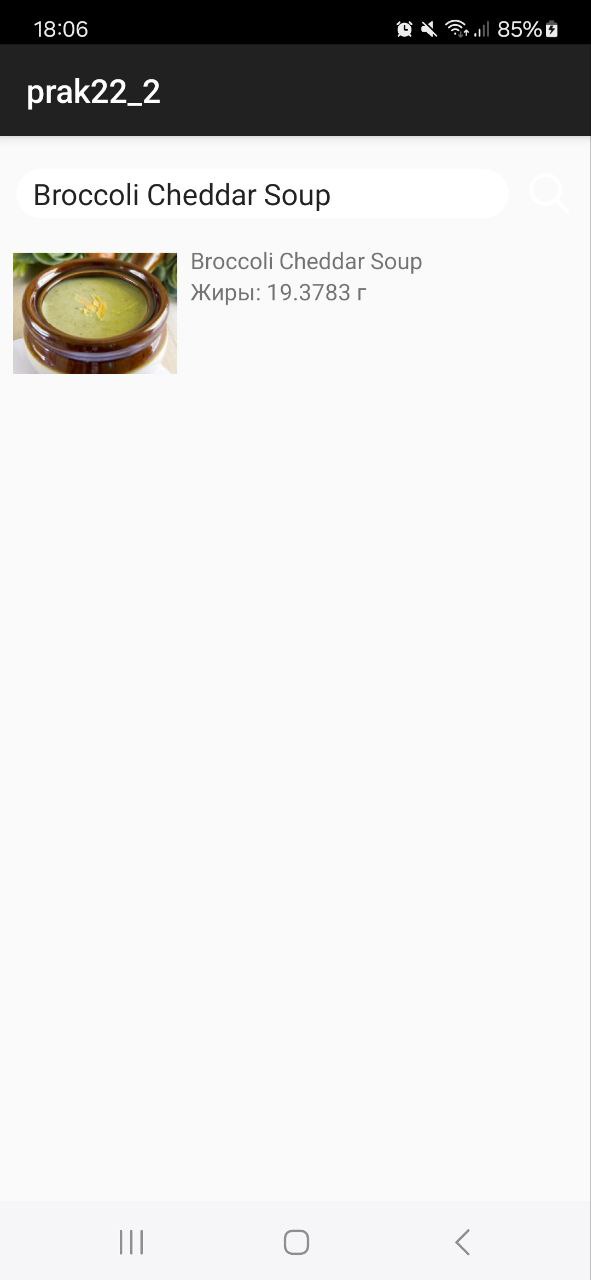
Room:

package com.example.prak22\_2.room  
  
import androidx.room.Database  
import androidx.room.Room  
import androidx.room.RoomDatabase  
import android.content.Context  
  
@Database(entities = [Recipe::class], version = 1, exportSchema = false)  
abstract class AppDatabase : RoomDatabase() {  
 abstract fun recipesDao(): RecipesDao  
  
 companion object {  
 @Volatile  
 private var INSTANCE: AppDatabase? = null  
  
 fun getDatabase(context: Context): AppDatabase {  
 return INSTANCE ?: *synchronized*(this) **{** val instance = Room.databaseBuilder(  
 context.*applicationContext*,  
 AppDatabase::class.*java*,  
 "app\_database"  
 ).build()  
 INSTANCE = instance  
 instance  
 **}** }  
 }  
}

package com.example.prak22\_2.room  
  
import androidx.room.Entity  
import androidx.room.PrimaryKey  
  
@Entity(tableName = "recipes")  
data class Recipe(  
 @PrimaryKey(autoGenerate = true) val id: Long = 0,  
 val title: String,  
 val fat: String,  
 val image: String  
)

package com.example.prak22\_2.room  
  
import androidx.room.Dao  
import androidx.room.Insert  
import androidx.room.OnConflictStrategy  
import androidx.room.Query  
  
@Dao  
interface RecipesDao {  
  
 @Insert(onConflict = OnConflictStrategy.REPLACE)  
 suspend fun insert(recipe: Recipe)  
  
 @Query("SELECT \* FROM recipes")  
 suspend fun getAllRecipes(): List<Recipe>  
  
 @Query("SELECT \* FROM recipes WHERE title LIKE :title")  
 suspend fun searchRecipesByTitle(title: String): List<Recipe>  
}

**Тестовые ситуации**

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