

Министерство образования и молодежной политики Свердловской области

ГАПОУ СО «Екатеринбургский колледж транспортного строительства»

Отчёт по учебной практике

УП 01.01

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## **Описание задачи**

## Используя Recyclwiev и fragment (навигацию по фрагментам), создать приложение:

## 1 вариант «Список расходов по датам (с расшифровкой)»Структура проекта

(Привести изображение со структурой решения. Описать проекты, входящие в него, объяснить их назначение)

**Листинг**

*ExpenseAdapter*

package com.example.zd1\_1up  
  
import android.content.Context  
import android.view.LayoutInflater  
import android.view.View  
import android.view.ViewGroup  
import android.widget.ArrayAdapter  
import android.widget.TextView  
  
class ExpenseAdapter(context: Context, resource: Int, private val objects: MutableList<ExpenseItem>) :  
 ArrayAdapter<ExpenseItem>(context, resource, objects) {  
  
 override fun getView(position: Int, convertView: View?, parent: ViewGroup): View {  
 val inflater = LayoutInflater.from(*context*)  
 val view = convertView ?: inflater.inflate(R.layout.*list\_item\_layout*, parent, false)  
  
 val item = getItem(position)  
  
 val textViewDate: TextView = view.findViewById(R.id.*textViewDate*)  
 val textViewAmount: TextView = view.findViewById(R.id.*textViewAmount*)  
  
 textViewDate.*text* = item?.date  
 textViewAmount.*text* = item?.amount.*toString*()  
  
 return view  
 }  
  
 fun updateData(newData: List<ExpenseItem>) {  
 objects.clear()  
 objects.addAll(newData)  
 notifyDataSetChanged()  
 }  
}

*ExpenseItem*

package com.example.zd1\_1up  
  
data class ExpenseItem(  
 val date: String,  
 val amount: Double,  
 val description: String,  
 val additionalAmount: Double // Новое поле для дополнительных расходов  
)

*Fragment1*

package com.example.zd1\_1up  
  
import android.content.Context  
import android.content.SharedPreferences  
import android.os.Bundle  
import android.support.v4.app.Fragment  
import android.support.v7.app.AppCompatActivity  
import android.view.LayoutInflater  
import android.view.View  
import android.view.ViewGroup  
import android.widget.Button  
import android.widget.EditText  
import android.widget.ListView  
import androidx.navigation.fragment.NavHostFragment  
import androidx.navigation.fragment.findNavController  
import com.google.gson.Gson  
import com.google.gson.reflect.TypeToken  
  
// TODO: Rename parameter arguments, choose names that match  
// the fragment initialization parameters, e.g. ARG\_ITEM\_NUMBER  
private const val *ARG\_PARAM1* = "param1"  
private const val *ARG\_PARAM2* = "param2"  
  
*/\*\*  
 \* A simple [Fragment] subclass.  
 \* Use the [Fragment1.newInstance] factory method to  
 \* create an instance of this fragment.  
 \*/*class Fragment1 : Fragment() {  
 // TODO: Rename and change types of parameters  
 private var param1: String? = null  
 private var param2: String? = null  
  
  
 private lateinit var sharedPreferences: SharedPreferences  
 private lateinit var expenseList: MutableList<ExpenseItem>  
 private lateinit var adapter: ExpenseAdapter  
  
 override fun onCreate(savedInstanceState: Bundle?) {  
 super.onCreate(savedInstanceState)  
 *arguments*?.*let* **{** param1 = **it**.getString(*ARG\_PARAM1*)  
 param2 = **it**.getString(*ARG\_PARAM2*)  
 **}** }  
  
 override fun onCreateView(  
 inflater: LayoutInflater, container: ViewGroup?,  
 savedInstanceState: Bundle?  
 ): View? {  
 // Inflate the layout for this fragment  
  
 val fragmentLayout=inflater.inflate(R.layout.*fragment\_1*, container, false)  
 val navController=NavHostFragment.findNavController(this)  
  
  
  
 sharedPreferences = requireActivity().getSharedPreferences("ExpensePrefs", Context.*MODE\_PRIVATE*)  
  
 val listView = fragmentLayout.findViewById<ListView>(R.id.*listView*)  
 val editTextDate = fragmentLayout.findViewById<EditText>(R.id.*editTextDate*)  
 val editTextAmount = fragmentLayout.findViewById<EditText>(R.id.*editTextAmount*)  
  
 val json = sharedPreferences.getString("expenses", null)  
 expenseList = if (json != null) {  
 Gson().fromJson(json, object : TypeToken<MutableList<ExpenseItem>>() {}.*type*)  
 } else {  
 *mutableListOf*()  
 }  
  
 adapter = ExpenseAdapter(requireContext(), R.layout.*list\_item\_layout*, expenseList)  
 listView.*adapter* = adapter  
  
 fragmentLayout.findViewById<Button>(R.id.*buttonAddExpense*).setOnClickListener **{** val date = editTextDate.*text*.toString()  
 val amount = editTextAmount.*text*.toString().*toDoubleOrNull*()  
  
 if (date.*isNotBlank*() && amount != null) {  
 val newExpense = ExpenseItem(date, amount, " ", 0.0)  
 expenseList.add(newExpense)  
  
 val editor = sharedPreferences.edit()  
 val jsonList = Gson().toJson(expenseList)  
 editor.putString("expenses", jsonList)  
 editor.apply()  
  
 // Вызываем notifyDataSetChanged синхронно в основном потоке  
 requireActivity().runOnUiThread **{** adapter.updateData(expenseList)  
 adapter.notifyDataSetChanged()  
 **}** editTextDate.*text*.clear()  
 editTextAmount.*text*.clear()  
  
  
  
 // val secondFragment = Fragment2()  
 // secondFragment.setExpenseUpdateListener(this)  
  
 }  
 **}** return fragmentLayout  
  
 }  
  
 companion object {  
 */\*\*  
 \* Use this factory method to create a new instance of  
 \* this fragment using the provided parameters.  
 \*  
 \** ***@param*** *param1 Parameter 1.  
 \** ***@param*** *param2 Parameter 2.  
 \** ***@return*** *A new instance of fragment Fragment1.  
 \*/* // TODO: Rename and change types and number of parameters  
 @JvmStatic  
 fun newInstance(param1: String, param2: String) =  
 Fragment1().*apply* **{** *arguments* = Bundle().*apply* **{** putString(*ARG\_PARAM1*, param1)  
 putString(*ARG\_PARAM2*, param2)  
 **}  
 }** }  
}

*Fragment2*

package com.example.zd1\_1up  
  
import android.content.Context  
import android.os.Bundle  
import android.support.v4.app.Fragment  
import android.support.v7.widget.LinearLayoutManager  
import android.support.v7.widget.RecyclerView  
import android.view.LayoutInflater  
import android.view.View  
import android.view.ViewGroup  
import android.widget.ArrayAdapter  
import android.widget.Button  
import android.widget.EditText  
import android.widget.ListView  
import android.widget.TextView  
import android.widget.Toast  
import com.google.gson.Gson  
import com.google.gson.reflect.TypeToken  
  
// *TODO: Rename parameter arguments, choose names that match*// the fragment initialization parameters, e.g. ARG\_ITEM\_NUMBER  
private const val *ARG\_PARAM1* = "param1"  
private const val *ARG\_PARAM2* = "param2"  
  
*/\*\*  
 \* A simple [Fragment] subclass.  
 \* Use the [Fragment2.newInstance] factory method to  
 \* create an instance of this fragment.  
 \*/*class Fragment2 : Fragment() {  
 // *TODO: Rename and change types of parameters* private var param1: String? = null  
 private var param2: String? = null  
 private lateinit var textAllTxt: TextView  
  
 private lateinit var dateEditText: EditText  
 private lateinit var amountEditText: EditText  
 private lateinit var addButton: Button  
 private lateinit var recyclerView: RecyclerView  
  
 private val expenseList = *mutableListOf*<ExpenseItem>()  
 private lateinit var adapter: ExpenseAdapterTwo  
  
 override fun onCreate(savedInstanceState: Bundle?) {  
 super.onCreate(savedInstanceState)  
 *arguments*?.*let* **{** param1 = **it**.getString(*ARG\_PARAM1*)  
 param2 = **it**.getString(*ARG\_PARAM2*)  
 **}** }  
  
 override fun onCreateView(  
 inflater: LayoutInflater, container: ViewGroup?,  
 savedInstanceState: Bundle?  
 ): View? {  
 // Inflate the layout for this fragment  
  
 val fragmentLayout2=inflater.inflate(R.layout.*fragment\_2*, container, false)  
  
 textAllTxt = fragmentLayout2.findViewById(R.id.*textAll*)  
  
  
 val date = *arguments*?.getString("date", "") ?: ""  
 val amount = *arguments*?.getDouble("amount", 0.0) ?: 0.0  
 textAllTxt.*text* = "Дата "+ date + " Расход" + "$amount рублей"  
  
 dateEditText = fragmentLayout2.findViewById(R.id.*editTextDate*)  
 amountEditText = fragmentLayout2.findViewById(R.id.*editTextAmount*)  
 addButton = fragmentLayout2.findViewById(R.id.*buttonAddExpense*)  
 recyclerView = fragmentLayout2.findViewById(R.id.*listView*)  
  
 loadExpenseList()  
  
 adapter = ExpenseAdapterTwo(expenseList)  
 recyclerView.*adapter* = adapter  
 recyclerView.*layoutManager* = LinearLayoutManager(*activity*)  
  
 addButton.setOnClickListener **{** addExpense()  
 **}** return fragmentLayout2  
  
 }  
 private fun addExpense() {  
 val date = dateEditText.*text*.toString()  
 val amount = amountEditText.*text*.toString().*toDoubleOrNull*()  
  
 if (date.*isNotEmpty*() && amount != null) {  
 val expenseItem = ExpenseItem(date, amount)  
 expenseList.add(expenseItem)  
 saveExpenseList()  
 adapter.notifyDataSetChanged()  
  
 // Очищаем поля ввода  
 dateEditText.*text*.clear()  
 amountEditText.*text*.clear()  
 } else {  
 Toast.makeText(*activity*, "Введите корректные данные", Toast.*LENGTH\_SHORT*).show()  
 }  
 }  
  
 private fun saveExpenseList() {  
 val gson = Gson()  
 val json = gson.toJson(expenseList)  
  
 val preferences = *activity*?.getPreferences(Context.*MODE\_PRIVATE*)  
 preferences?.edit()?.putString("expenseList1", json)?.apply()  
 }  
  
 private fun loadExpenseList() {  
 val preferences = *activity*?.getPreferences(Context.*MODE\_PRIVATE*)  
 val json = preferences?.getString("expenseList1", "")  
 val type = object : TypeToken<List<ExpenseItem>>() {}.*type* expenseList.clear()  
 expenseList.addAll(Gson().fromJson(json, type) ?: *emptyList*())  
 }  
  
  
  
 companion object {  
 */\*\*  
 \* Use this factory method to create a new instance of  
 \* this fragment using the provided parameters.  
 \*  
 \** ***@param*** *param1 Parameter 1.  
 \** ***@param*** *param2 Parameter 2.  
 \** ***@return*** *A new instance of fragment Fragment2.  
 \*/* // *TODO: Rename and change types and number of parameters* @JvmStatic  
 fun newInstance(param1: String, param2: String) =  
 Fragment2().*apply* **{** *arguments* = Bundle().*apply* **{** putString(*ARG\_PARAM1*, param1)  
 putString(*ARG\_PARAM2*, param2)  
 **}  
 }** }  
  
  
}

}

*MainActivity*

package com.example.zd1\_1up  
  
import android.annotation.SuppressLint  
import android.content.SharedPreferences  
import android.support.v7.app.AppCompatActivity  
import android.os.Bundle  
import android.support.design.widget.AppBarLayout  
import android.widget.Button  
import android.support.design.widget.NavigationView  
import android.support.v4.widget.DrawerLayout  
import android.support.v7.app.ActionBarDrawerToggle  
  
import android.support.v7.widget.Toolbar  
import android.view.Menu  
import android.view.MenuItem  
import android.view.View  
import android.widget.EditText  
import android.widget.ListView  
import androidx.navigation.NavController  
import androidx.navigation.fragment.NavHostFragment  
import androidx.navigation.ui.setupWithNavController  
import androidx.navigation.ui.AppBarConfiguration  
import androidx.navigation.ui.onNavDestinationSelected  
import androidx.navigation.ui.setupActionBarWithNavController  
  
import com.google.gson.Gson  
import com.google.gson.reflect.TypeToken  
  
  
  
  
class MainActivity : AppCompatActivity() {  
  
  
 private lateinit var navController: NavController  
 @SuppressLint("MissingInflatedId")  
 override fun onCreate(savedInstanceState: Bundle?) {  
 super.onCreate(savedInstanceState)  
 setContentView(R.layout.*activity\_main*)  
 val host:NavHostFragment=*supportFragmentManager* .findFragmentById(R.id.*navFragment*)as NavHostFragment? ?:return  
 val navController=host.*navController* val sideBar=findViewById<NavigationView>(R.id.*nav\_view*)  
 sideBar?.*setupWithNavController*(navController)  
 val drawerLayout = findViewById<android.support.v4.widget.DrawerLayout>(R.id.*drawer\_layout*)  
 var appBarConfiguration=*AppBarConfiguration*(navController.*graph*,drawerLayout )  
 val toolbar=findViewById<Toolbar>(R.id.*toolbar2*)  
 setSupportActionBar(toolbar)  
 toolbar.*setupWithNavController*(navController,appBarConfiguration)  
  
  
 }  
 // включаем верхнее меню (кнопка вверху справа)  
 override fun onCreateOptionsMenu(menu: Menu): Boolean {  
 *menuInflater*.inflate(R.menu.*top\_right\_menu*, menu)  
 return true  
 }  
  
 // переходим по ссылкам верхнего меню  
 override fun onOptionsItemSelected(item: MenuItem): Boolean {  
  
 return item.*onNavDestinationSelected*(navController)  
 || super.onOptionsItemSelected(item)  
 }  
  
  
  
  
}

*activity\_main.xaml*

<?xml version="1.0" encoding="utf-8"?>  
<android.support.v4.widget.DrawerLayout  
 xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:app="http://schemas.android.com/apk/res-auto"  
 android:id="@+id/drawer\_layout"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:fitsSystemWindows="true">  
 <LinearLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:orientation="vertical">  
 <android.support.v7.widget.Toolbar  
 android:id="@+id/toolbar2"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:background="?attr/colorPrimary"  
 android:minHeight="?attr/actionBarSize"  
 android:theme="?attr/actionBarTheme" />  
 <fragment  
 android:name="androidx.navigation.fragment.NavHostFragment"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 app:navGraph="@navigation/routes"  
 app:defaultNavHost="true"  
 android:id="@+id/navFragment"/>  
 </LinearLayout>  
  
  
 <android.support.design.widget.NavigationView  
 android:id="@+id/nav\_view"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="match\_parent"  
 android:layout\_gravity="start"  
 android:fitsSystemWindows="true"  
 app:menu="@menu/drawer\_menu"/>  
  
</android.support.v4.widget.DrawerLayout>

*dialog\_add\_deta.xaml*

<?xml version="1.0" encoding="utf-8"?>  
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:orientation="vertical">  
 <EditText  
 android:id="@+id/editTextDetails"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:hint="Описание"  
 android:inputType="text"/>  
  
 <EditText  
 android:id="@+id/editTextAdditionalAmount"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:hint="Расход"  
 android:inputType="numberDecimal"/>  
</LinearLayout>

*fragment\_1.xaml*

<?xml version="1.0" encoding="utf-8"?>  
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".Fragment1"  
 android:orientation="vertical"  
 android:background="@color/background">  
  
 <LinearLayout  
 android:id="@+id/inputLayout"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:orientation="vertical"  
 android:padding="16dp">  
  
 <EditText  
 android:id="@+id/editTextDate"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:hint="Дата (YYYY-MM-DD)"  
 android:inputType="text"/>  
  
 <EditText  
 android:id="@+id/editTextAmount"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:hint="Сумма расхода"  
 android:inputType="numberDecimal"/>  
  
 <Button  
 android:id="@+id/buttonAddExpense"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginTop="16dp"  
 android:text="Добавить"/>  
 </LinearLayout>  
  
 <ListView  
 android:id="@+id/listView"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_below="@id/inputLayout"  
 android:divider="@android:color/darker\_gray"  
 android:dividerHeight="0.5dp"  
 android:paddingTop="16dp"/>  
  
</LinearLayout>

*fragment\_2.xaml*

<?xml version="1.0" encoding="utf-8"?>  
<LinearLayout  
 android:id="@+id/fragment2"  
 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=".Fragment2"  
 android:background="@color/background"  
 android:orientation="vertical">  
  
 <TextView  
 android:id="@+id/textAll"  
 android:layout\_marginLeft="90dp"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Заголовок "  
 android:textColor="@color/white"  
 android:textSize="25dp"  
 ></TextView>  
 <EditText  
 android:textSize="25dp"  
 android:textColor="@color/white"  
 android:textColorHint="@color/grey"  
 android:id="@+id/editTextDate"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:hint="Расход"  
 android:inputType="text"/>  
  
 <EditText  
 android:id="@+id/editTextAmount"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:hint="Сумма"  
 android:inputType="numberDecimal"  
 android:textColor="@color/white"  
 android:textColorHint="@color/grey"  
 android:textSize="25dp"  
 tools:layout\_editor\_absoluteX="-16dp"  
 tools:layout\_editor\_absoluteY="200dp" />  
  
 <Button  
 android:background="@color/button"  
 android:textColor="@color/white"  
 android:id="@+id/buttonAddExpense"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginTop="16dp"  
 android:text="Добавить"/>  
  
  
 <android.support.v7.widget.RecyclerView  
 android:onClick="perehodTwo"  
 android:layout\_marginTop="1dp"  
 android:id="@+id/listView"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:divider="@android:color/darker\_gray"  
 android:dividerHeight="1dp"  
 android:paddingTop="10dp"  
 android:paddingBottom="10dp"  
 />  
</LinearLayout>

*list\_item\_adapter.xaml*

<?xml version="1.0" encoding="utf-8"?>  
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:orientation="vertical"  
 android:background="@color/background"  
 >  
 <TextView  
 android:id="@+id/textViewDescription"  
 android:layout\_width="150dp"  
 android:layout\_height="wrap\_content"  
 android:layout\_weight="1"  
 android:textAppearance="?android:textAppearanceListItemSmall"/>  
  
 <TextView  
 android:id="@+id/textViewAmount"  
 android:layout\_width="150dp"  
 android:layout\_height="wrap\_content"  
 android:layout\_weight="1"  
 android:textAppearance="?android:textAppearanceListItemSmall"/>  
  
 <TextView  
 android:id="@+id/textViewDetails"  
 android:layout\_width="150dp"  
 android:layout\_height="wrap\_content"  
 android:layout\_weight="1"  
 android:textAppearance="?android:textAppearanceListItemSmall"/>  
  
 <TextView  
 android:id="@+id/textViewAdditionalAmount"  
 android:layout\_width="150dp"  
 android:layout\_height="wrap\_content"  
 android:layout\_weight="1"  
 android:textAppearance="?android:textAppearanceListItemSmall"/>  
  
 <LinearLayout  
 android:background="@color/background"  
 android:layout\_width="410dp"  
 android:layout\_height="20dp" />  
  
</LinearLayout>

*list\_item\_layout.xaml*

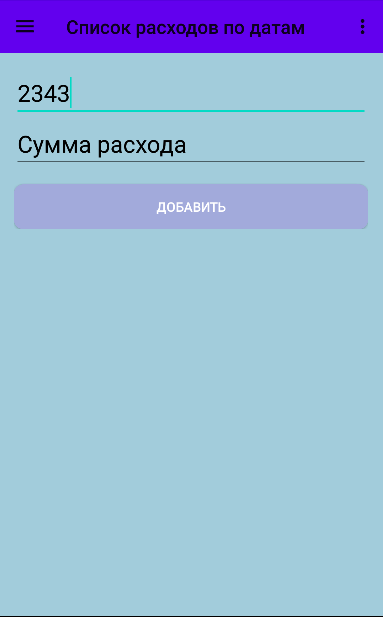
<?xml version="1.0" encoding="utf-8"?>  
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:orientation="vertical"  
 android:background="@color/background">  
  
 <LinearLayout  
 android:background="@color/element"  
 android:layout\_width="410dp"  
 android:layout\_height="wrap\_content"  
 android:orientation="horizontal"  
 >  
  
 <TextView  
  
 android:text="Дата "  
 android:textSize="30dp"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content" />  
   
 <TextView  
 android:id="@+id/textViewDate"  
 android:layout\_width="0dp"  
 android:layout\_height="wrap\_content"  
 android:layout\_weight="1"  
 android:textSize="30sp"  
 android:textStyle="bold"/>  
 </LinearLayout>  
   
 <LinearLayout  
 android:background="@color/element"  
 android:layout\_width="410dp"  
 android:layout\_height="wrap\_content"  
 android:orientation="horizontal"  
 >  
  
 <TextView  
  
 android:text="Расход "  
 android:textSize="30dp"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content" />  
  
 <TextView  
 android:id="@+id/textViewAmount"  
 android:layout\_width="125dp"  
 android:layout\_height="wrap\_content"  
 android:textSize="30dp"  
 android:textStyle="bold" />  
  
 </LinearLayout>  
  
 <LinearLayout  
 android:background="@color/background"  
 android:layout\_width="410dp"  
 android:layout\_height="20dp" />  
  
  
</LinearLayout>

## **Используемые библиотеки**

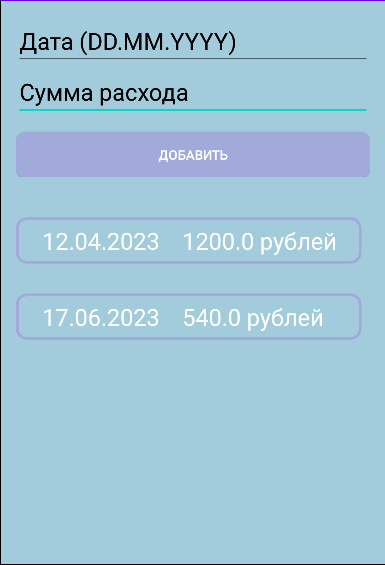
//noinspection GradleCompatible  
implementation 'com.android.support:appcompat-v7:28.0.0'  
implementation 'com.android.support.constraint:constraint-layout:2.0.4'  
testImplementation 'junit:junit:4.13.2'  
//noinspection GradleCompatible  
androidTestImplementation 'com.android.support.test:runner:1.0.2'  
androidTestImplementation 'com.android.support.test.espresso:espresso-core:3.0.2'  
def nav\_version = "1.0.0"  
implementation "android.arch.navigation:navigation-fragment-ktx:$nav\_version"  
implementation "android.arch.navigation:navigation-ui-ktx:$nav\_version"  
//noinspection GradleCompatible  
implementation 'com.android.support:design:28.0.0'  
  
implementation 'com.google.code.gson:gson:2.8.8'

## **Тестовые случаи**

Если пытаться заполнить лист пустым полем, то программа сообщит об ошибке



## **Экраны**



## **Используемые инструменты**

kotlin, xml, android studio

## **Вывод:** Я создал работающую систему навигации для многоэкранного приложения в соответствии со стандартами Navigation Architecture Component. А так же укрепил свои знания RecyclerView и shared preferences.