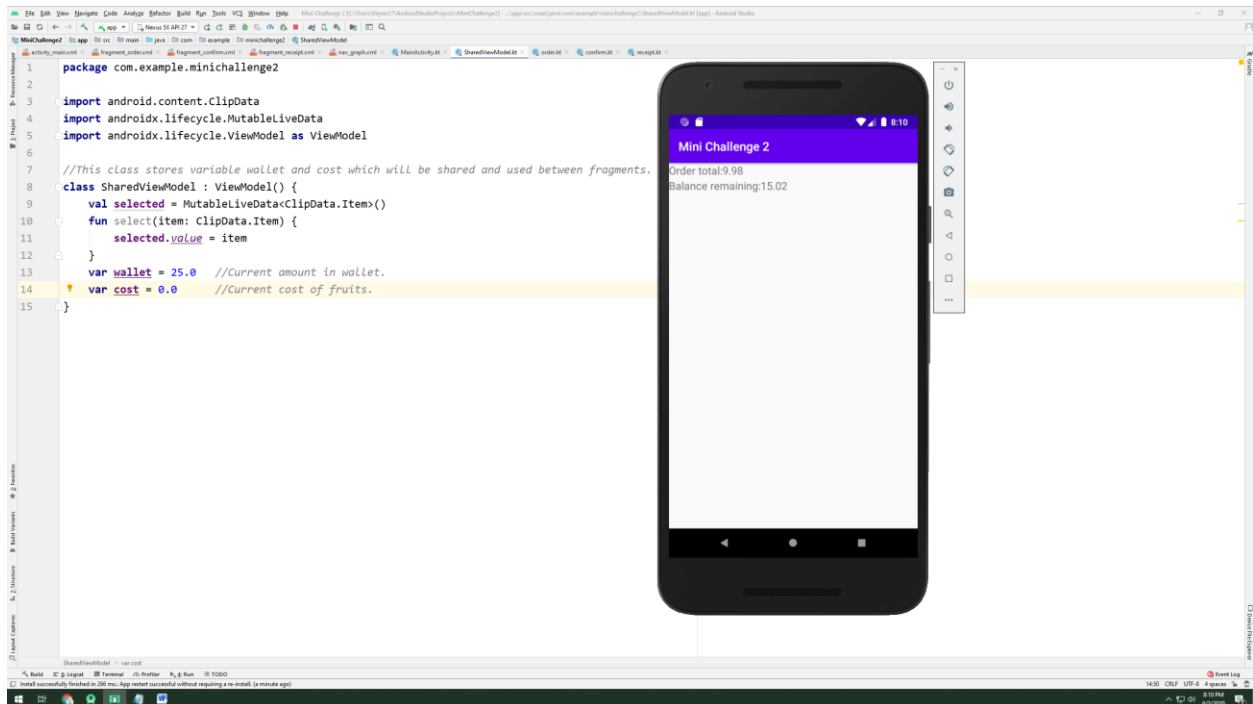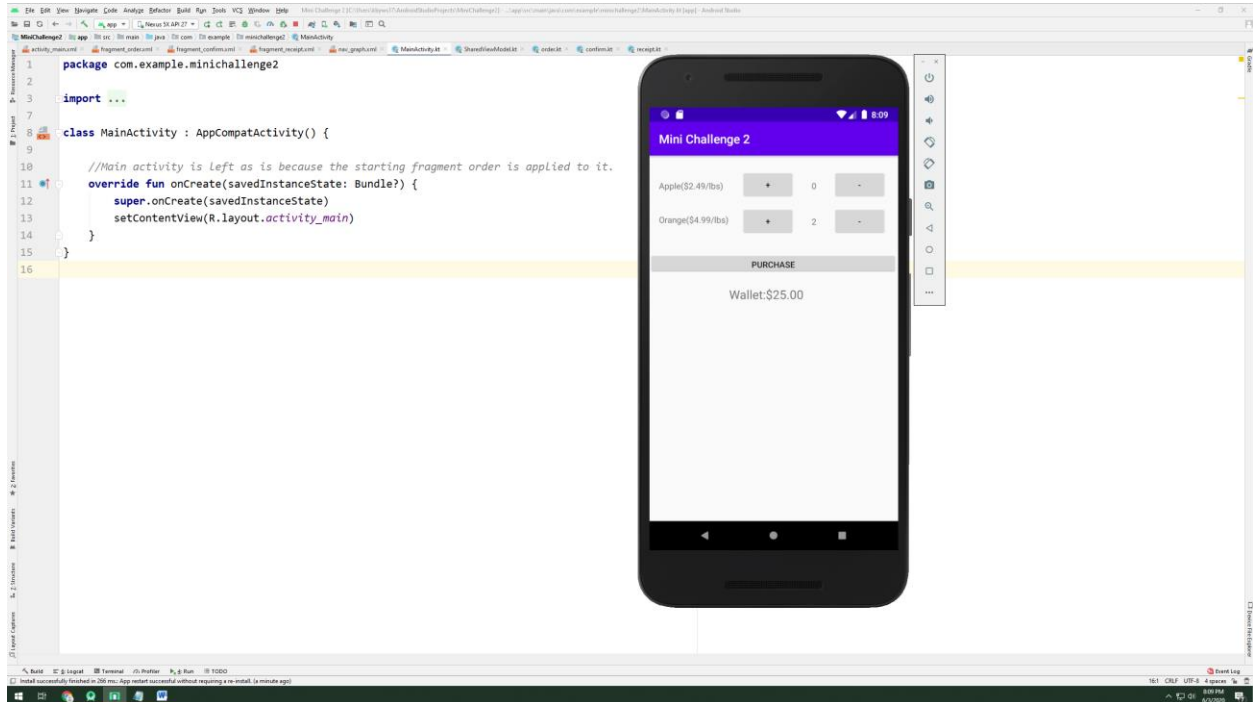Chung Choi

9045-71294

CS3714

```kotlin
package com.example.minichallenge2

import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle
import androidx.lifecycle.ViewModelProvider
import kotlinx.android.synthetic.main.activity_main.*

class MainActivity : AppCompatActivity() {

    //Main activity is left as is because the starting fragment order is applied to
it.
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)
    }
}
```

```kotlin
package com.example.minichallenge2

import android.content.ClipData
import androidx.lifecycle.MutableLiveData
import androidx.lifecycle.ViewModel as ViewModel

//This class stores variable wallet and cost which will be shared and used between
fragments.
class SharedViewModel : ViewModel() {
    val selected = MutableLiveData<ClipData.Item>()
    fun select(item: ClipData.Item) {
        selected.value = item
    }
    var wallet = 25.0    //Current amount in wallet.
    var cost = 0.0       //Current cost of fruits.
}
```

```kotlin
package com.example.minichallenge2

import android.os.Bundle
import android.provider.SyncStateContract.Helpers.update
import androidx.fragment.app.Fragment
import android.view.LayoutInflater
import android.view.View
import android.view.ViewGroup
import androidx.fragment.app.activityViewModels
import androidx.lifecycle.ViewModelProvider
import androidx.navigation.Navigation
import kotlinx.android.synthetic.main.activity_main.*
import kotlinx.android.synthetic.main.fragment_order.*
import kotlinx.android.synthetic.main.fragment_order.applem
import kotlinx.android.synthetic.main.fragment_order.applep
import kotlinx.android.synthetic.main.fragment_order.funds
import kotlinx.android.synthetic.main.fragment_order.orangem
import kotlinx.android.synthetic.main.fragment_order.orangep
import kotlinx.android.synthetic.main.fragment_order.purchase
import kotlinx.android.synthetic.main.fragment_order.qapple
import kotlinx.android.synthetic.main.fragment_order.qorange
import kotlinx.android.synthetic.main.fragment_order.view.*
import java.nio.channels.Selector
import java.math.BigDecimal
import java.math.RoundingMode
/**
 * A simple [Fragment] subclass.
 */
class order : Fragment() {

    //Used to get the var wallet and cost in SharedViewModel.kt and use them in the
fragments.
    private lateinit var itemSelector: Selector
    private val model: SharedViewModel by activityViewModels()

    override fun onCreateView(
        inflater: LayoutInflater, container: ViewGroup?,
        savedInstanceState: Bundle?
    ): View? {
        // Inflate the layout for this fragment
        val view = inflater.inflate(R.layout.fragment_order, container, false)

        //variables for number of apples, oranges, and current wallet rounded to 2
decimals.
        var apples = 0
        var oranges = 0
        val walletr = BigDecimal(model.wallet).setScale(2, RoundingMode.HALF_EVEN)
        view.funds.text = walletr.toString()

        /**
         * applep is the "+" button. When it is pressed, 1 apple is added.
         * applem is the "-" button. When it is pressed, 1 apple is subtracted.
         * qapple is the number of apples currently shown on the app screen.
```

```
         */
        view.applep.setOnClickListener{
            apples += 1
            view.qapple.text = apples.toString()
        }
        view.applem.setOnClickListener{
            if (apples > 0) {    //Cannot have less than 0 apples.
                apples -= 1
                view.qapple.text = apples.toString()
            }
        }
        //Same as the apple button code above except this code block represents
oranges.
        view.orangep.setOnClickListener{
            oranges += 1
            view.qorange.text = oranges.toString()
        }
        view.orangem.setOnClickListener{
            if (oranges > 0) {  //Cannot have less than 0 oranges.
                oranges -= 1
                view.qorange.text = oranges.toString()
            }
        }

        //When the "purchase" button is clicked, goes to the next fragment.
        view.purchase.setOnClickListener{
            //Calculates the current total cost based on number of apples and oranges
selected.
            model.cost = (apples * 2.49) + (oranges * 4.99)

Navigation.findNavController(view).navigate(R.id.action_order_to_confirm2)
        }

        return view
    }

}
```

```kotlin
package com.example.minichallenge2

import android.os.Bundle
import android.view.Gravity
import androidx.fragment.app.Fragment
import android.view.LayoutInflater
import android.view.View
import android.view.ViewGroup
import android.widget.Toast
import androidx.fragment.app.activityViewModels
import androidx.navigation.Navigation
import kotlinx.android.synthetic.main.fragment_confirm.view.*
import java.nio.channels.Selector

class confirm : Fragment() {

    //Used to get the var wallet and cost in SharedViewModel.kt and use them in the
fragments.
    private lateinit var itemSelector: Selector
    private val model: SharedViewModel by activityViewModels()

    override fun onCreateView(
        inflater: LayoutInflater, container: ViewGroup?,
        savedInstanceState: Bundle?
    ): View? {
        //This fragment confirms whether the user wants to purchase the fruits or
not.
        val view2 = inflater.inflate(R.layout.fragment_confirm, container, false)
        view2.confirmtext.text = "This purchase will cost you $" + model.cost + ".
Proceed?"
        /*
        * When purchase2 button is clicked and wallet funds is sufficient, the fruits
are purchased
        * and cost is subtracted from the wallet. If funds are insufficient, then a
toast comment
        * stating "insufficient funds" appears.
        */
        view2.purchase2.setOnClickListener{
            if (model.wallet >= model.cost) {
                model.wallet -= model.cost

Navigation.findNavController(view2).navigate(R.id.action_confirm_to_receipt22)
            }
            else    {
                val myToast = Toast.makeText(context,"Insufficient
funds.",Toast.LENGTH_SHORT)
                myToast.setGravity(Gravity.CENTER_VERTICAL,0,700)
                myToast.show()
            }
        }
        return view2
    }
}
```

```kotlin
package com.example.minichallenge2

import android.icu.text.DecimalFormat
import android.os.Bundle
import androidx.fragment.app.Fragment
import android.view.LayoutInflater
import android.view.View
import android.view.ViewGroup
import androidx.fragment.app.activityViewModels
import androidx.navigation.Navigation
import kotlinx.android.synthetic.main.fragment_receipt.view.*
import java.nio.channels.Selector

import java.math.BigDecimal
import java.math.RoundingMode
/**
 * A simple [Fragment] subclass.
 */
class receipt : Fragment() {

    //Used to get the var wallet and cost in SharedViewModel.kt and use them in the
fragments.
    private lateinit var itemSelector: Selector
    private val model: SharedViewModel by activityViewModels()

    override fun onCreateView(
        inflater: LayoutInflater, container: ViewGroup?,
        savedInstanceState: Bundle?
    ): View? {
        //This fragment shows the order total and the balance remaining in the
wallet.
        val view3 = inflater.inflate(R.layout.fragment_receipt, container, false)

        //cost and wallet is rounded to 2 decimals and placed in costr and walletr.
        val costr = BigDecimal(model.cost).setScale(2, RoundingMode.HALF_EVEN)
        val walletr = BigDecimal(model.wallet).setScale(2, RoundingMode.HALF_EVEN)

        //The rounded cost and wallet total are displayed in text view.
        view3.total.text = "Order total:" + costr
        view3.balance.text = "Balance remaining:" + walletr
        return view3
    }
}
```

```
apply plugin: 'com.android.application'
apply plugin: 'kotlin-android'
apply plugin: 'kotlin-android-extensions'
apply plugin: 'kotlin-kapt'


android {
    compileSdkVersion 29
    buildToolsVersion "29.0.3"

    compileOptions {
        sourceCompatibility JavaVersion.VERSION_1_8
        targetCompatibility JavaVersion.VERSION_1_8
    }
    kotlinOptions {
        jvmTarget = JavaVersion.VERSION_1_8.toString()
    }

    defaultConfig {
        applicationId "com.example.minichallenge2"
        minSdkVersion 16
        targetSdkVersion 29
        versionCode 1
        versionName "1.0"

        testInstrumentationRunner "androidx.test.runner.AndroidJUnitRunner"

    }

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

}

dependencies {
    implementation fileTree(dir: 'libs', include: ['*.jar'])
    implementation "org.jetbrains.kotlin:kotlin-stdlib-jdk7:$kotlin_version"
    implementation 'androidx.appcompat:appcompat:1.1.0'
    implementation 'androidx.core:core-ktx:1.3.0'
    implementation 'androidx.constraintlayout:constraintlayout:1.1.3'
    implementation 'androidx.legacy:legacy-support-v4:1.0.0'
    testImplementation 'junit:junit:4.12'
    androidTestImplementation 'androidx.test.ext:junit:1.1.1'
    androidTestImplementation 'androidx.test.espresso:espresso-core:3.2.0'
    implementation 'androidx.navigation:navigation-fragment-ktx:2.0.0'
    implementation 'androidx.navigation:navigation-ui-ktx:2.0.0'

    def nav_version = "2.3.0-beta01"
```

```
    // Java language implementation
    implementation "androidx.navigation:navigation-fragment:$nav_version"
    implementation "androidx.navigation:navigation-ui:$nav_version"

    // Kotlin
    implementation "androidx.navigation:navigation-fragment-ktx:$nav_version"
    implementation "androidx.navigation:navigation-ui-ktx:$nav_version"

    // Dynamic Feature Module Support
    implementation "androidx.navigation:navigation-dynamic-features-
fragment:$nav_version"

    // Testing Navigation
    androidTestImplementation "androidx.navigation:navigation-testing:$nav_version"

    implementation "androidx.lifecycle:lifecycle-viewmodel-ktx:2.1.0-beta01"


    def lifecycle_version = "2.2.0"
    def arch_version = "2.1.0"

    // ViewModel
    implementation "androidx.lifecycle:lifecycle-viewmodel-ktx:$lifecycle_version"
    // LiveData
    implementation "androidx.lifecycle:lifecycle-livedata-ktx:$lifecycle_version"
    // Lifecycles only (without ViewModel or LiveData)
    implementation "androidx.lifecycle:lifecycle-runtime-ktx:$lifecycle_version"

    // Saved state module for ViewModel
    implementation "androidx.lifecycle:lifecycle-viewmodel-
savedstate:$lifecycle_version"

    // Annotation processor
    kapt "androidx.lifecycle:lifecycle-compiler:$lifecycle_version"
    // alternately - if using Java8, use the following instead of lifecycle-compiler
    implementation "androidx.lifecycle:lifecycle-common-java8:$lifecycle_version"

    // optional - helpers for implementing LifecycleOwner in a Service
    implementation "androidx.lifecycle:lifecycle-service:$lifecycle_version"

    // optional - ProcessLifecycleOwner provides a lifecycle for the whole
application process
    implementation "androidx.lifecycle:lifecycle-process:$lifecycle_version"

    // optional - ReactiveStreams support for LiveData
    implementation "androidx.lifecycle:lifecycle-reactivestreams-
ktx:$lifecycle_version"

    // optional - Test helpers for LiveData
    testImplementation "androidx.arch.core:core-testing:$arch_version"
}
```

```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">

    <fragment
        android:id="@+id/fragment"
        android:name="androidx.navigation.fragment.NavHostFragment"
        android:layout_width="412dp"
        android:layout_height="730dp"
        app:defaultNavHost="true"
        app:navGraph="@navigation/nav_graph"
        tools:layout_editor_absoluteX="-1dp"
        tools:layout_editor_absoluteY="0dp" />

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

```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:id="@+id/frameLayout"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".order">

    <!-- TODO: Update blank fragment layout -->

    <TextView
        android:id="@+id/apple"
        android:layout_width="116dp"
        android:layout_height="43dp"
        android:layout_marginStart="16dp"
        android:layout_marginLeft="16dp"
        android:layout_marginTop="40dp"
        android:text="Apple($2.49/lbs)"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <TextView
        android:id="@+id/orange"
        android:layout_width="116dp"
        android:layout_height="43dp"
        android:layout_marginStart="16dp"
        android:layout_marginLeft="16dp"
        android:layout_marginTop="96dp"
        android:text="Orange($4.99/lbs)"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <TextView
        android:id="@+id/qapple"
        android:layout_width="25dp"
        android:layout_height="24dp"
        android:layout_marginStart="28dp"
        android:layout_marginLeft="24dp"
        android:layout_marginTop="40dp"
        android:text="0"
        app:layout_constraintStart_toEndOf="@+id/applep"
        app:layout_constraintTop_toTopOf="parent" />

    <TextView
        android:id="@+id/qorange"
        android:layout_width="25dp"
        android:layout_height="24dp"
        android:layout_marginStart="28dp"
        android:layout_marginLeft="28dp"
        android:layout_marginTop="35dp"
        android:text="0"
```

```xml
        app:layout_constraintStart_toEndOf="@+id/orangep"
        app:layout_constraintTop_toBottomOf="@+id/qapple" />

    <TextView
        android:id="@+id/wallet"
        android:layout_width="74dp"
        android:layout_height="27dp"
        android:layout_marginStart="132dp"
        android:layout_marginLeft="132dp"
        android:layout_marginTop="20dp"
        android:text="Wallet:$"
        android:textSize="20sp"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/purchase" />

    <TextView
        android:id="@+id/funds"
        android:layout_width="62dp"
        android:layout_height="27dp"
        android:layout_marginStart="204dp"
        android:layout_marginLeft="204dp"
        android:layout_marginTop="20dp"
        android:text="0"
        android:textSize="20sp"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/purchase" />

    <Button
        android:id="@+id/applep"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="20dp"
        android:layout_marginLeft="20dp"
        android:layout_marginTop="24dp"
        android:text="+"
        app:layout_constraintStart_toEndOf="@+id/apple"
        app:layout_constraintTop_toTopOf="parent" />

    <Button
        android:id="@+id/orangep"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="20dp"
        android:layout_marginLeft="20dp"
        android:layout_marginTop="12dp"
        android:text="+"
        app:layout_constraintStart_toEndOf="@+id/orange"
        app:layout_constraintTop_toBottomOf="@+id/applep" />

    <Button
        android:id="@+id/applem"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="304dp"
        android:layout_marginLeft="304dp"
```

```xml
        android:layout_marginTop="24dp"
        android:text="-"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <Button
        android:id="@+id/orangem"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="304dp"
        android:layout_marginLeft="304dp"
        android:layout_marginTop="84dp"
        android:text="-"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <Button
        android:id="@+id/purchase"
        android:layout_width="410dp"
        android:layout_height="35dp"
        android:layout_marginTop="28dp"
        android:text="Purchase"
        app:layout_constraintTop_toBottomOf="@+id/orangep"
        tools:layout_editor_absoluteX="0dp" />

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

```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:id="@+id/frameLayout2"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".confirm">

    <TextView
        android:id="@+id/confirmtext"
        android:layout_width="344dp"
        android:layout_height="20dp"
        android:layout_marginTop="28dp"
        android:text="This purchase will cost you $. Proceed?"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.492"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <Button
        android:id="@+id/purchase2"
        android:layout_width="410dp"
        android:layout_height="38dp"
        android:layout_marginTop="28dp"
        android:text="Purchase"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/confirmtext" />

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

```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:id="@+id/frameLayout3"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".receipt">

    <TextView
        android:id="@+id/total"
        android:layout_width="236dp"
        android:layout_height="25dp"
        android:text="TextView"
        android:textSize="18sp"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <TextView
        android:id="@+id/balance"
        android:layout_width="407dp"
        android:layout_height="36dp"
        android:text="TextView"
        android:textSize="18sp"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/total" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

```xml
<?xml version="1.0" encoding="utf-8"?>
<navigation 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/nav_graph"
    app:startDestination="@id/order">

    <fragment
        android:id="@+id/confirm"
        android:name="com.example.minichallenge2.confirm"
        android:label="fragment_confirm"
        tools:layout="@layout/fragment_confirm" >
        <action
            android:id="@+id/action_confirm_to_receipt22"
            app:destination="@id/receipt2"
            app:popUpTo="@id/order" />
    </fragment>
    <fragment
        android:id="@+id/order"
        android:name="com.example.minichallenge2.order"
        android:label="fragment_order"
        tools:layout="@layout/fragment_order" >
        <action
            android:id="@+id/action_order_to_confirm2"
            app:destination="@id/confirm" />
    </fragment>
    <fragment
        android:id="@+id/receipt2"
        android:name="com.example.minichallenge2.receipt"
        android:label="fragment_receipt"
        tools:layout="@layout/fragment_receipt" />
</navigation>
```