TASK GUIDE (B4.04)

A. Objectives.
Student will start to design the Invert layout as third layout that contains a GridLayout to show grid pictures.

B. Requirements.
Hardware:
- 2 GB RAM minimum, 8 GB RAM recommended
- 2 GB of available disk space minimum, 4 GB Recommended (500 MB for IDE + 1.5 GB for Android SDK and emulator system image)
- 1280 x 800 minimum screen resolution
- Intel processor with support for Intel VT-x, Intel EM64T (Intel 64), and Execute Disable (XD) Bit functionality

Software:
- Microsoft Windows 7/8/10 (32-bit or 64-bit)
- JDK 8
- Android Studio IDE (Minimum 3.2) with AndroidX library.

C. Resources.
Documents:
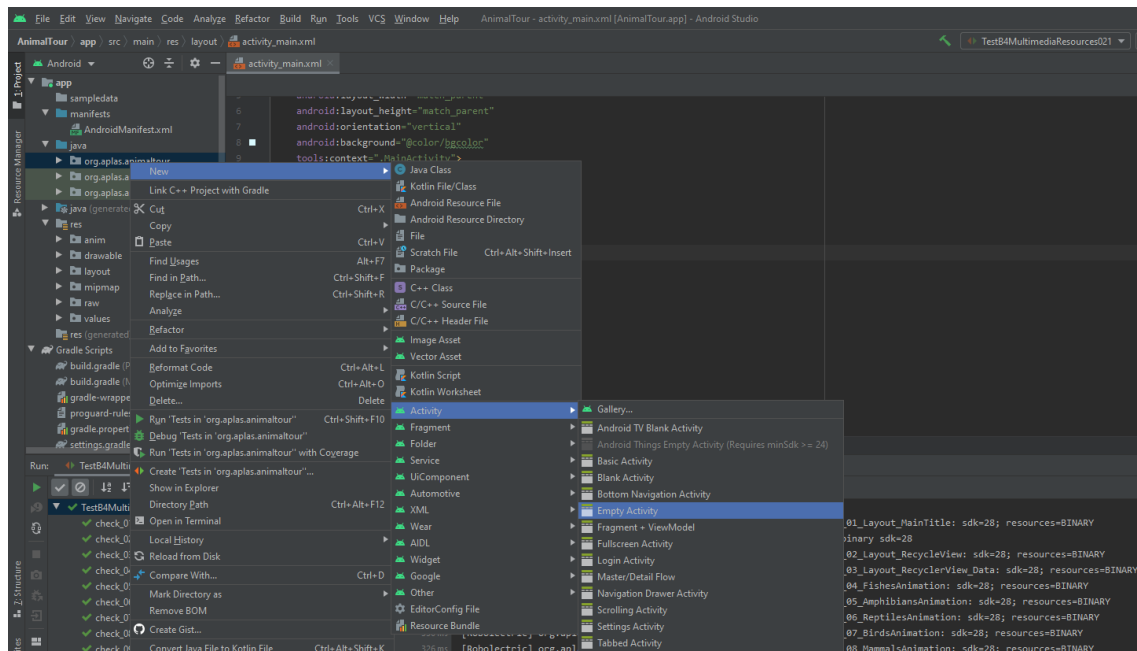- Guide

Supplement files:

Test code:
- TestB4MultimediaResources041.java

D. Task Description.
Student start to modify the third layout.

E. Specification.

1. Create a new Empty Activity

   With this specification:
   - Activity name   : InvertActivity
   - Generate layout file   : checked
   - Layout name   : activity_invert
   - Launcher activity   : uncheck
   - Language   : Java

2. Open "activity_invert.xml" in layout resource folder. Change the root layout become "LinearLayout" and give id "invertLayout", background "@drawable/invertbg" and orientation "vertical".

3. Put a text in a **TextView** as first Title with this information:
   - id: "title1"
   - textSize: "24pt"
   - text: "Invertebrates"

   You can cover this TextView by a CardView if necessary.

4. Put a text in a **TextView** as second Title under the first Title with this information:
   - id: "title2"
   - textSize: "24pt"
   - text: "World"

   You can cover this TextView by a CardView if necessary.

5. Add a new GridLayout with 2 columns and 2 rows under the title using this code:

```
<GridLayout
        android:id="@+id/invertGrid"
        android:columnCount="2"
        android:rowCount="2"
        android:alignmentMode="alignMargins"
        android:columnOrderPreserved="false"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:padding="14dp"
        >

</GridLayout>
```

6. Inside the GridLayout, add 4 ImageViews with this template for each item:

```
<LinearLayout
    android:layout_width="wrap_content"
    android:layout_height="wrap_content">

    <androidx.cardview.widget.CardView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        app:cardElevation="8dp"
        app:cardCornerRadius="10dp">

        <ImageView
            android:id="@+id/…"
            android:transitionName="fade_trans"
            android:src="@drawable/…"
            android:adjustViewBounds="true"
            android:cropToPadding="false"
            android:background="@color/white"
            android:scaleType="fitXY"
            />

    </androidx.cardview.widget.CardView>
</LinearLayout>
```

Use these ImageViews:

- id: "insectPic", src: "insects",
- id: "arachnidPic", src: "arachnids",
- id: "molluscPic", src: "molluscs",
- id: "crustaceanPic", src: "crustaceans",

You can modify the arrangement of this layout regarding your preferred styles.

7. Add 2 ImageButtons under the GridLayout with these specifications:
- An ImageButton on left side with id = 'mediaButton', scaleType 'fitCenter', background = '@null', src = '@drawable/icon_prev'.
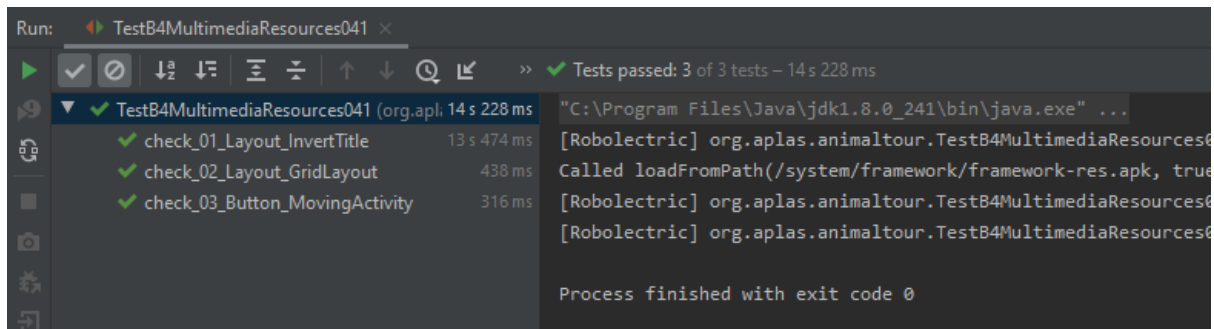
- An ImageButton on center side with id = 'finishButton', scaleType 'fitXY', background = '@null', src = '@drawable/finish_icon'.

You can modify the arrangement of this layout regarding your preferred styles.

F. Testing.

1. Copy "TestB4MultimediaResources041.java" file to "org.aplas.animaltour (test)" folder.

2. Right click on the "TestB4MultimediaResources041.java" file then choose Run. It may take long time to execute.

3. Get the result of your task. If passed you will get green check like below. If the test failed, you will get orange check get the messages and you must check your work again.

You have to try until get all green checkes and continue to the next task.