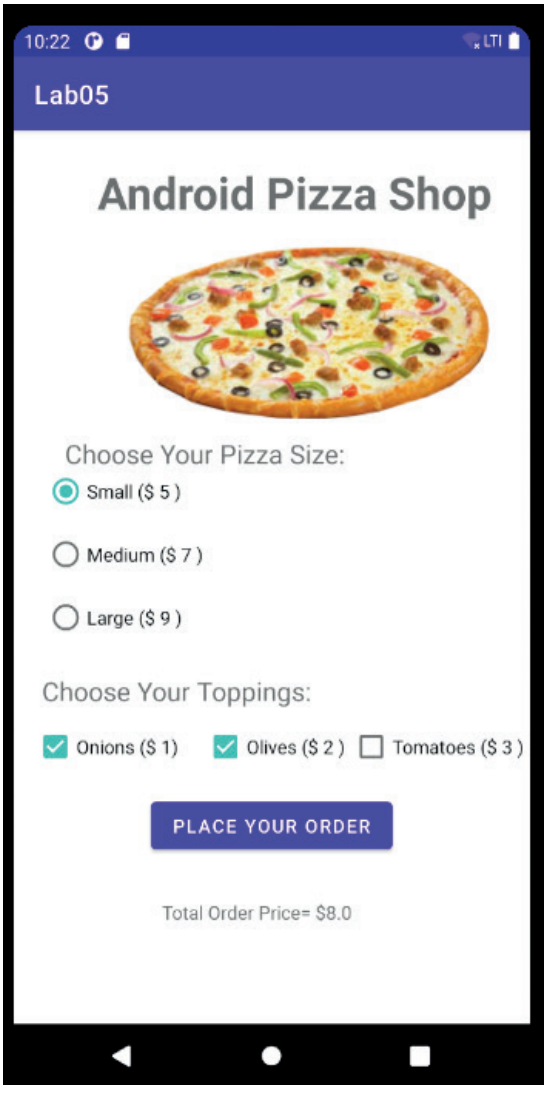
Lab 5

Creating a Pizza Order Application

Objectives:

- **Create Your App User Interface**
- **Configure the Android App Code**
- **Run Your App**



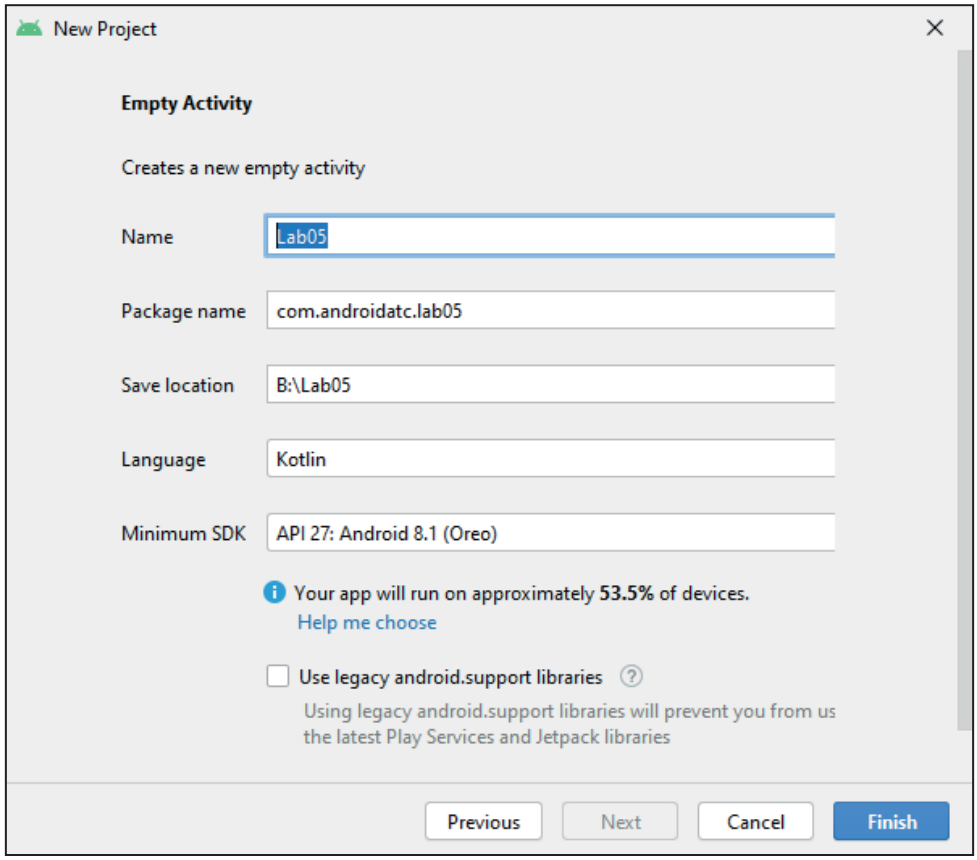
Create Your App User Interface

1- Start by creating a new Android project. Open Android Studio and go to:

File → New→ New Project

2- Select **Empty Activity**, click **Next**

3- Type Lab05 for the project name as illustrated in the figure below, and then click **Finish**.



4- You must be sure that **build.gardle** (Module:Lab05) file has the following Kotlin plugin extension:

```
id 'kotlin-android-extensions'
```

Its configuration must be as illustrated in the following figure, and after adding the `id` 'kotlin-android-extensions', click the **Sync Now.**

```
1  plugins {
2      id 'com.android.application'
3      id 'kotlin-android'
4      id 'kotlin-android-extensions'
5  }
```

5- To start designing your app user interface, you should begin with **activity_main.xml** file. Navigate to **app→ res → layout → activity_main.xml** and open this file in **Design** mode. You will get the following figure:

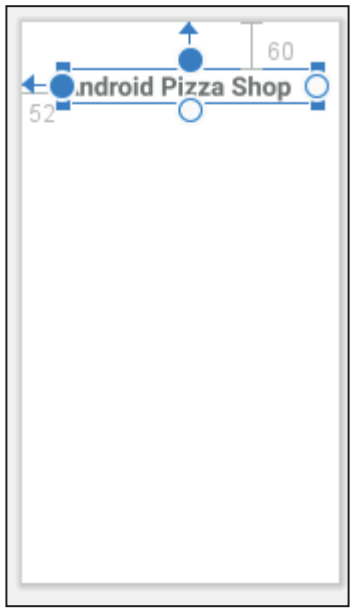
6- Delete "**Hello World**" text from the center of this activity layout.

7- From the **Palette** panel, drag a **TextView** widget and drop it on the activity layout. Set its constraints, and modify its attributes' values as follows:

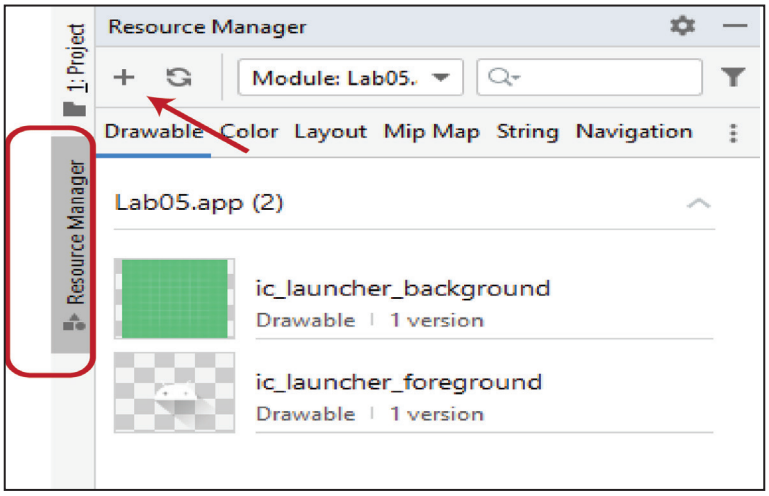
text : Android Pizza Shop
textSize : 34sp
textStyle : Bold

Note: You may use the search option in the **Attributes** panel to find the attributes above.

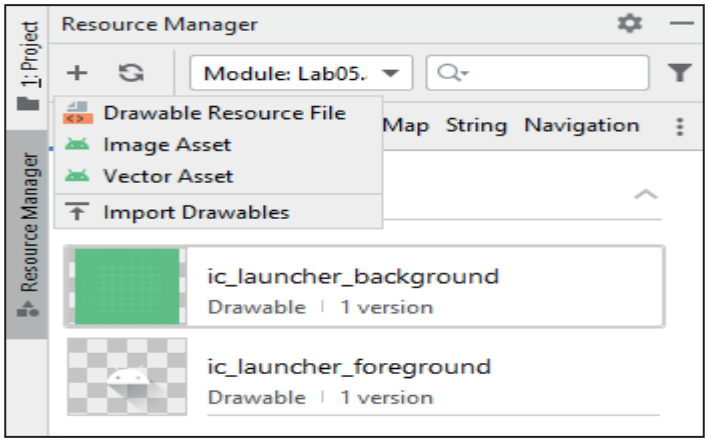
Your interface activity in the design mode should be as illustrated in the following figure:



8- To add a pizza image to your activity layout, click the **ResourceManger** tab. Be sure the selected tab is **Drawable**, and click the plus sign (**+**) as illustrated in the figure below:



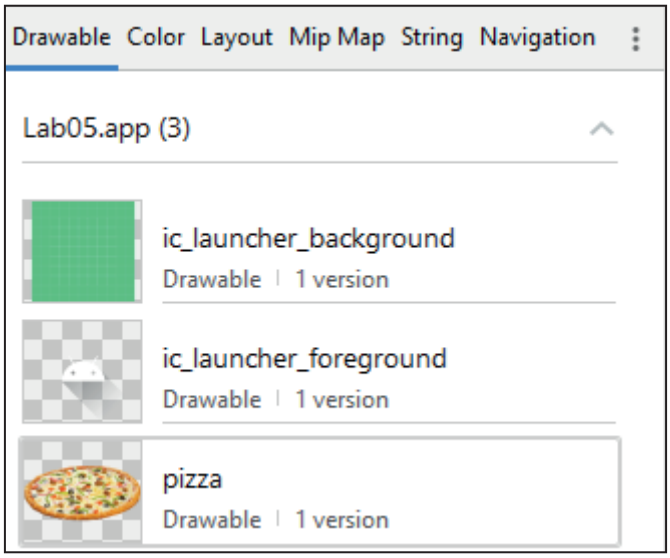
9- Select **Import Drawables** as illustrated in the figure below:



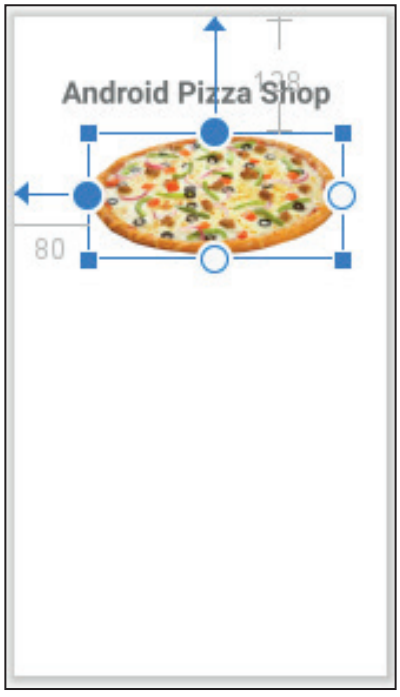
10- Browse your computer to select the pizza image. You may select pizza.png for the lab source files folder (Images → Lab05) You should find **pizza.png** image. If you don't have this folder on your computer, you can copy any pizza image from Google website, but make sure that the full name of this image is in lowercase.

Select the image file, click **Next**, and then click **Import**

Now you have the pizza image in the **Drawable** folder as illustrated in the following figure:



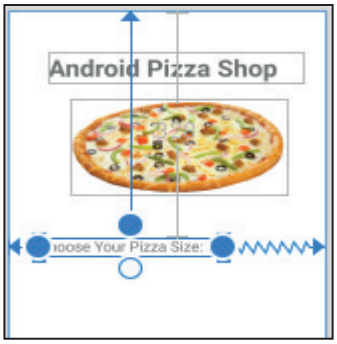
11- To add this pizza image to your app interface, drag and drop the **ImageView** to your activity interface in design mode, select the image, and then click **OK**.
Set the constraints of this pizza image to be sure it will appear on the same location when you run you app. Until this step, you should have a similar interface to the following figure:



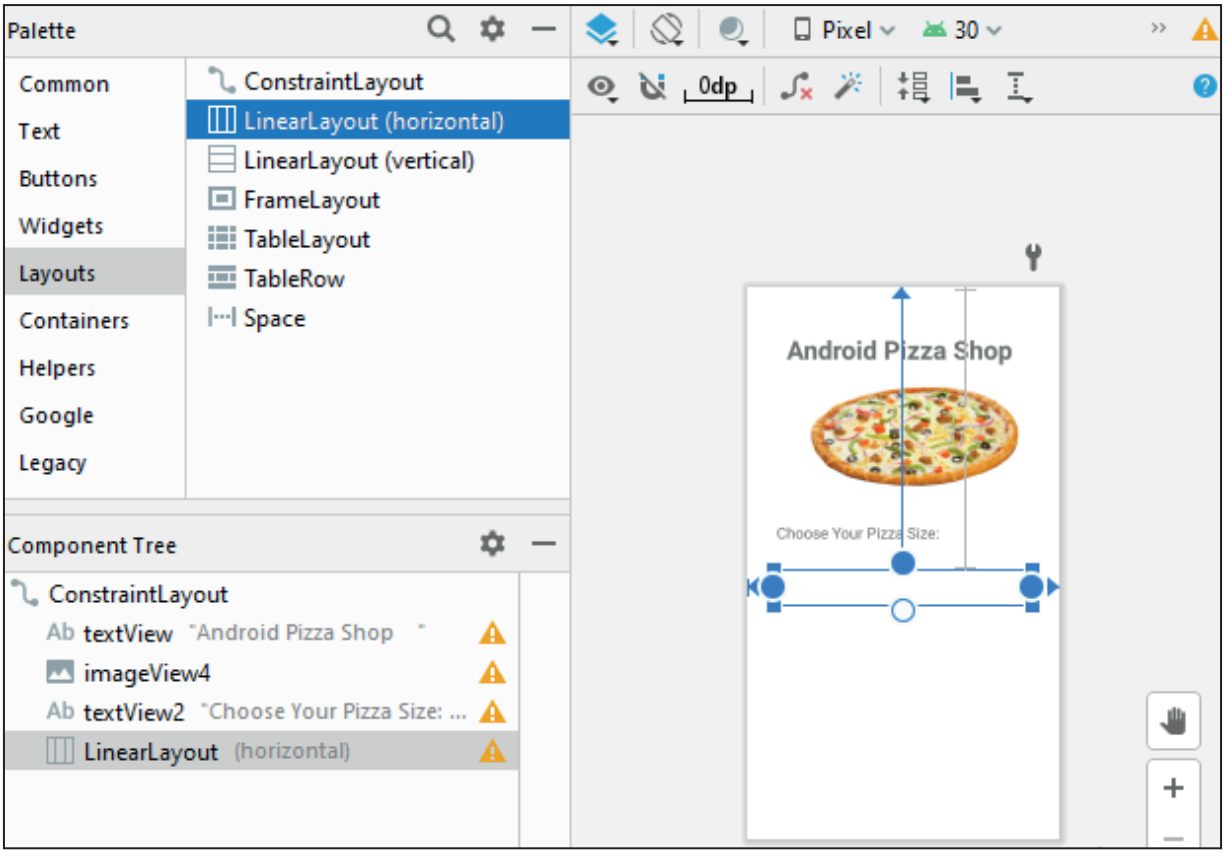
12- Add a **TextView** to the app activity layout, set its constraints, and change its attributes as follows:

text:	Choose Your Pizza Size:
textSize:	20sp

The interface should be as illustrated in the following figure:

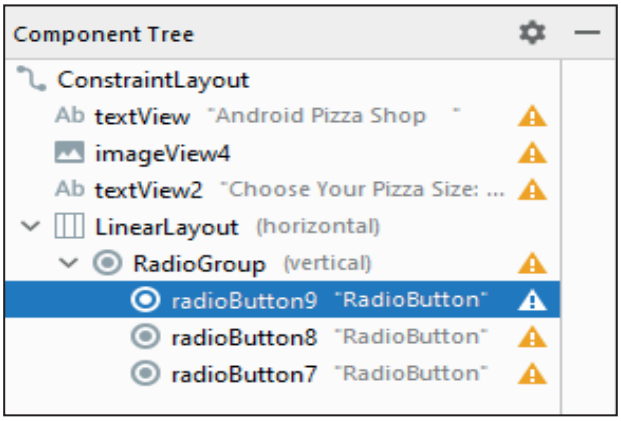


13- Now, to add the three radio buttons for the pizza size, you should add them inside a Linear layout; therefore, add a **Linear Layout (horizontal)** to your activity first using a drag and drop form the Palette panel as illustrated in the following figure and set its constraints to have a similar location and size as illustrated in the figure below:



14- Drag a **RadioGroup** form the **Palette** panel to your **LinearLayout**.

15- Add three radio buttons to be children objects of the RadioGroup as illustrated in the following components tree console. You may drag the radio button directly to the Radio Group at the component tree.



16- These radio buttons represent the pizza sizes (small, medium and large). Set their attributes as follows:

id: smallpizza	**id**: mediumpizza	**id**: largepizza
text: Small ($ 5)	**text**: Medium ($ 7)	**text**: Large ($ 9)

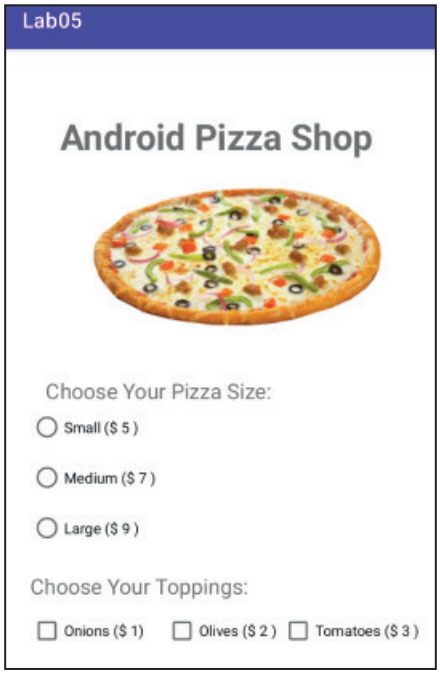
17- Add a **TextView** widget to the app activity layout, set its constraints, and change its attributes as follows:

text:	Choose Your Toppings:
textSize:	20sp

It should be as follows:

18- Add three check boxes to your app activity layout, set their constraints, and change their attributes' values as follows:

id: OnionsCheckBox	**id**: OlivesCheckBox	**id**: TomatoesCheckBox
text: Onions ($ 1)	**text**: Olives ($ 2)	**text**: Tomatoes ($ 3)



19- Add a **Button** widget to your app activity layout, set its constraints, and set its attributes values as follows:

id :	orderbutton
text:	Place Your Order

This button will be used later to display the total price of the pizza which your app user will select in a **TextView** widget, the one you will create in the next step.

20- Add **TextView** widget to your app activity layout directly below the button which you have created in the previous step, set its constraints, delete the **text** attribute value, expand its size to appear the total payment value, and change **TextView** attribute to be as follows:

id:	Totalprice

Configure the Android Application Code

21- Now, start writing the code to get the total price for any pizza order. The following is the full code which will be added to the **MainActivity** file.

```
package com.androidatc.lab05

import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle
import android.view.View
import kotlinx.android.synthetic.main.activity_main.*

class MainActivity : AppCompatActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)
    }
    fun onPlaceOrderButtonClicked(view: View) {
        var pizzaSizePrice = 0.0
        var toppingsTotal = 0.0

        when {
            smallpizza.isChecked -> pizzaSizePrice =5.0
            mediumpizza.isChecked -> pizzaSizePrice=7.0
            largepizza.isChecked -> pizzaSizePrice=9.0}

        if (OnionsCheckBox.isChecked) { toppingsTotal += 1 }
        if (OlivesCheckBox.isChecked) { toppingsTotal += 2 }
        if (TomatoesCheckBox.isChecked) { toppingsTotal += 3}

Totalprice.text="Total Order Price=
$"+(pizzaSizePrice+toppingsTotal)
    }

}
```

If you have any code that has a red underline, just click this red underline, click the red pop-up lamp icon, and then select import to import to your file all the classes which are required to operate this Kotlin app.

Be sure all the packages and classes which are at the top of the previous code are imported or are typed in your code to avoid any appearance of a red underline in your code.

21- Now you should add the following attribute:
`android:onClick="onPlaceOrderButtonClicked"` to each check box and radio button in the **activity_main.xml** file (in Code mode). The full code should be as follows:

```
<?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">

    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="64dp"
        android:layout_marginTop="24dp"
        android:text="Android Pizza Shop    "
        android:textSize="34sp"
        android:textStyle="bold"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <ImageView
        android:id="@+id/imageView4"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="84dp"
        android:layout_marginTop="84dp"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:srcCompat="@drawable/pizza" />

    <TextView
        android:id="@+id/textView2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="232dp"
        android:text="Choose Your Pizza Size:     "
```

```
        android:textSize="20sp"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.255"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <LinearLayout
        android:id="@+id/linearLayout"
        android:layout_width="417dp"
        android:layout_height="146dp"
        android:layout_marginStart="24dp"
        android:layout_marginTop="250dp"
        android:orientation="horizontal"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent">

        <RadioGroup
            android:layout_width="match_parent"
            android:layout_height="154dp">

            <RadioButton
                android:id="@+id/smallpizza"
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:onClick="onPlaceOrderButtonClicked"
                android:text="Small ($ 5 )" />

            <RadioButton
                android:id="@+id/mediumpizza"
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:onClick="onPlaceOrderButtonClicked"
                android:text="Medium ($ 7 )" />

            <RadioButton
                android:id="@+id/largepizza"
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:onClick="onPlaceOrderButtonClicked"
                android:text="Large ($ 9 )" />
        </RadioGroup>
    </LinearLayout>

    <TextView
        android:id="@+id/textView3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="16dp"
```

```
android:text="Choose Your Toppings:"
        android:textSize="20sp"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.117"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/linearLayout" />

    <CheckBox
        android:id="@+id/OnionsCheckBox"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="24dp"
        android:layout_marginTop="32dp"
        android:text="Onions ($ 1)"
        app:layout_constraintStart_toStartOf="parent"
        android:onClick="onPlaceOrderButtonClicked"
        app:layout_constraintTop_toTopOf="@+id/textView3" />

    <CheckBox
        android:id="@+id/OlivesCheckBox"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="20dp"
        android:layout_marginTop="48dp"
        android:text="Olives ($ 2 )"
        app:layout_constraintStart_toEndOf="@+id/OnionsCheckBox"
        android:onClick="onPlaceOrderButtonClicked"
        app:layout_constraintTop_toBottomOf="@+id/linearLayout" />

    <CheckBox
        android:id="@+id/TomatoesCheckBox"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="4dp"
        android:layout_marginTop="48dp"
        android:text="Tomatoes ($ 3 )"
        app:layout_constraintStart_toEndOf="@+id/OlivesCheckBox"
        android:onClick="onPlaceOrderButtonClicked"
        app:layout_constraintTop_toBottomOf="@+id/linearLayout" />

   <Button
        android:id="@+id/orderbutton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="60dp"
        android:text="Place Your Order"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="@+id/OlivesCheckBox" />
```

```
    <TextView
        android:id="@+id/Totalprice"
        android:layout_width="167dp"
        android:layout_height="29dp"
        android:layout_marginTop="92dp"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/OlivesCheckBox"
/>

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

Run Your Application

Run result should be as follows: