

Practical 7:camera

MainActivity.kt

```
package com.example.h7
import android.content.Intent
import android.graphics.Bitmap
import android.os.Bundle
import android.provider.MediaStore
import android.widget.Button
import android.widget.ImageView
import androidx.activity.result.ActivityResult
import androidx.activity.result.ActivityResultCallback
import androidx.activity.result.contract.ActivityResultContracts
import androidx.appcompat.app.AppCompatActivity

class MainActivity : AppCompatActivity() {

    // Define the button and imageview type variables
    private lateinit var cameraOpenId: Button
    lateinit var clickImageId: ImageView

    // Declare the ActivityResultLauncher for capturing an image
    private val cameraLauncher =
        registerForActivityResult(ActivityResultContracts.StartActivityForResult(),
            ActivityResultCallback<ActivityResult> { result ->
                if (result.resultCode == RESULT_OK) {
                    // Retrieve the image captured
                    val data = result.data
                    val photo = data?.extras?.get("data") as? Bitmap
                    clickImageId.setImageBitmap(photo) // Set the image in the
                    ImageView
                }
            })

    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)

        // Initialize the button and imageview
        cameraOpenId = findViewById(R.id.camera_button)
        clickImageId = findViewById(R.id.click_image)

        // Set up the button click listener to open the camera
        cameraOpenId.setOnClickListener {
            // Create the intent to open the camera
            val cameraIntent = Intent(MediaStore.ACTION_IMAGE_CAPTURE)
            cameraLauncher.launch(cameraIntent) // Launch the camera
        }
    }
}
```

Activity_main.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout 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=".MainActivity">
    <!-- add Camera Button to open the Camera -->
    <Button
        android:id="@+id/camera_button"
        android:layout_width="100dp"
        android:layout_height="50dp"
        android:layout_marginStart="150dp"
        android:text="Camera" />
    <!-- add ImageView to display the captured image -->
    <ImageView
        android:id="@+id/click_image"
        android:layout_width="350dp"
        android:layout_height="450dp"
        android:layout_marginStart="30dp"
        android:layout_marginTop="70dp"
        android:layout_marginBottom="10dp" />
</RelativeLayout>
```