

Prog 4 a & b

## **MainActivity.java**

```
package com.example.cam_app_4a_103;

import androidx.annotation.NonNull;
import androidx.annotation.Nullable;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.app.ActivityCompat;
import androidx.core.content.ContextCompat;

import android.Manifest;
import android.app.Activity;
import android.content.Intent;
import android.content.pm.PackageManager;
import android.graphics.Bitmap;
import android.graphics.BitmapFactory;
import android.net.Uri;
import android.os.Bundle;
import android.provider.MediaStore;
import android.view.View;
import android.widget.Button;
import android.widget.ImageView;
import android.widget.LinearLayout;
import android.widget.Toast;

import java.io.InputStream;
```

```
public class MainActivity extends AppCompatActivity {

    private final int CAMERA_REQ_CODE = 100;

    ImageView imgCamera;

    boolean camImgfit;

    Button cameraBtn, selectImgBtn;

    private static final int REQUEST_CODE_STORAGE_PERMISSION = 1;
    private static final int REQUEST_CODE_SELECT_IMAGE = 2;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        imgCamera = findViewById(R.id.camImg);
        cameraBtn = findViewById(R.id.cameraBtn);

        cameraBtn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Intent iCamera = new Intent(MediaStore.ACTION_IMAGE_CAPTURE);
                startActivityForResult(iCamera, CAMERA_REQ_CODE);
            }
        });

        selectImgBtn = findViewById(R.id.selectImgBtn);
```

```

selectImgBtn.setOnClickListener(new View.OnClickListener() {

    @Override

    public void onClick(View view) {

        if(ContextCompat.checkSelfPermission(

            getApplicationContext(), Manifest.permission.READ_EXTERNAL_STORAGE

        ) != PackageManager.PERMISSION_GRANTED) {

            ActivityCompat.requestPermissions(

                MainActivity.this,

                new String[] {

                    Manifest.permission.READ_EXTERNAL_STORAGE

                },

                REQUEST_CODE_STORAGE_PERMISSION

            );

        } else {

            selectImage();

        }

    }

});
}

```

```

@Override

protected void onActivityResult(int requestCode, int resultCode, @Nullable Intent data) {

    super.onActivityResult(requestCode, resultCode, data);

    if(requestCode == CAMERA_REQ_CODE && resultCode == RESULT_OK) {

        Bitmap img = (Bitmap) (data.getExtras().get("data"));

        imgCamera.setImageBitmap(img);

    }
}

```

```

if(requestCode == REQUEST_CODE_SELECT_IMAGE && resultCode == RESULT_OK) {
    if(data != null) {
        Uri selectedImageUri = data.getData();
        if(selectedImageUri != null) {
            try {
                InputStream inputStream = getContentResolver().openInputStream(selectedImageUri);
                Bitmap bitmap = BitmapFactory.decodeStream(inputStream);
                imgCamera.setImageBitmap(bitmap);
            } catch (Exception exception) {
                Toast.makeText(this, exception.getMessage(), Toast.LENGTH_SHORT).show();
            }
        }
    }
}

```

```

private void selectImage() {
    Intent intent = new Intent(Intent.ACTION_PICK, MediaStore.Images.Media.EXTERNAL_CONTENT_URI);

    if(intent.resolveActivity(getPackageManager()) != null) {
        startActivityForResult(intent, REQUEST_CODE_SELECT_IMAGE);
    }
}

```

@Override

```

public void onRequestPermissionsResult(int requestCode, @NonNull String[] permissions, @NonNull int[]
grantResults) {
    super.onRequestPermissionsResult(requestCode, permissions, grantResults);

    if(requestCode == REQUEST_CODE_STORAGE_PERMISSION && grantResults.length > 0) {
        if(grantResults[0] == PackageManager.PERMISSION_GRANTED) {
            selectImage();
        }
    }
}

```

```

    }
    else {
        Toast.makeText(this, "Permission Denied", Toast.LENGTH_SHORT).show();
    }
}
}
}
}
}

```

## activity\_main.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">

    <ImageView
        android:id="@+id/camImg"
        android:layout_width="0dp"
        android:layout_height="0dp"
        android:layout_marginTop="20dp"
        android:layout_marginBottom="100dp"
        android:adjustViewBounds="false"
        android:scaleType="fitCenter"
        app:layout_constraintBottom_toTopOf="@+id/cameraBtn"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.0"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:srcCompat="@color/black" />

```

<Button

android:id="@+id/cameraBtn"

android:layout\_width="0dp"

android:layout\_height="wrap\_content"

android:layout\_marginBottom="10dp"

android:text="Open Camera"

app:layout\_constraintBottom\_toTopOf="@+id/selectImgBtn"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintHorizontal\_bias="0.0"

app:layout\_constraintStart\_toStartOf="parent" />

<Button

android:id="@+id/selectImgBtn"

android:layout\_width="0dp"

android:layout\_height="wrap\_content"

android:layout\_marginBottom="50dp"

android:text="Select Image"

app:layout\_constraintBottom\_toBottomOf="parent"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintHorizontal\_bias="0.0"

app:layout\_constraintStart\_toStartOf="parent" />

</androidx.constraintlayout.widget.ConstraintLayout>

AndroidManifest.xml (add the below line)

```
<uses-permission android:name="android.permission.READ_EXTERNAL_STORAGE" />
```