# AIM:

Implement a Navigation drawer.

# PROGRAM CODE:

**JAVA CODE:**

**MainActivity.java**

*package com.example.navigationco4\_q5;*

*import android.os.Bundle; import android.view.View; import android.view.Menu;*

*import com.google.android.material.snackbar.Snackbar;*

*import com.google.android.material.navigation.NavigationView;*

*import androidx.navigation.NavController; import androidx.navigation.Navigation;*

*import androidx.navigation.ui.AppBarConfiguration; import androidx.navigation.ui.NavigationUI;*

*import androidx.drawerlayout.widget.DrawerLayout; import androidx.appcompat.app.AppCompatActivity;*

*import com.example.navigationco4\_q5.databinding.ActivityMainBinding; public class MainActivity extends AppCompatActivity {*

*private AppBarConfiguration mAppBarConfiguration; private ActivityMainBinding binding;*

*@Override*

*protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState);*

*binding = ActivityMainBinding.inflate(getLayoutInflater()); setContentView(binding.getRoot());*

*setSupportActionBar(binding.appBarMain.toolbar); binding.appBarMain.fab.setOnClickListener(new View.OnClickListener() {*

*@Override*

*public void onClick(View view) {*

*Snackbar.make(view, "Replace with your own action", Snackbar.LENGTH\_LONG)*

*.setAction("Action", null).show();*

*}*

*});*

*DrawerLayout drawer = binding.drawerLayout;*

*NavigationView navigationView = binding.navView;*

*// Passing each menu ID as a set of Ids because each*

*// menu should be considered as top level destinations. mAppBarConfiguration = new AppBarConfiguration.Builder(*

*R.id.nav\_home, R.id.nav\_gallery, R.id.nav\_slideshow , R.id.nav\_contacts)*

*.setOpenableLayout(drawer)*

*.build();*

*NavController navController = Navigation.findNavController(this, R.id.nav\_host\_fragment\_content\_main); NavigationUI.setupActionBarWithNavController(this, navController, mAppBarConfiguration); NavigationUI.setupWithNavController(navigationView, navController);*

*}*

*@Override*

*public boolean onCreateOptionsMenu(Menu menu) {*

*// Inflate the menu; this adds items to the action bar if it is present. getMenuInflater().inflate(R.menu.main, menu);*

*return true;*

*}*

*@Override*

*public boolean onSupportNavigateUp() {*

*NavController navController = Navigation.findNavController(this, R.id.nav\_host\_fragment\_content\_main); return NavigationUI.navigateUp(navController, mAppBarConfiguration)*

*|| super.onSupportNavigateUp();*

*}*

*}*

# ContactsFragments.java

*package com.example.navigationco4\_q5.ui.contacts;*

*import android.os.Bundle;*

*import android.view.LayoutInflater;* import android.view.View;

*import android.view.ViewGroup;* import android.widget.TextView;

*import androidx.annotation.NonNull;* import androidx.annotation.Nullable; import androidx.fragment.app.Fragment; import androidx.lifecycle.Observer;

*import androidx.lifecycle.ViewModelProvider;*

*import com.example.navigationco4\_q5.R;*

*import com.example.navigationco4\_q5.databinding.FragmentContactsBinding;* public class ContactsFragments extends Fragment {

*private ContactsViewModel ContactsViewModel;* private FragmentContactsBinding binding;

*public View onCreateView(@NonNull LayoutInflater inflater,* ViewGroup container, Bundle savedInstanceState) {

*ContactsViewModel =*

*new ViewModelProvider(this).get(ContactsViewModel.class);*

*binding = FragmentContactsBinding.inflate(inflater, container, false);* View root = binding.getRoot();

*final TextView textView = binding.textContacts;* ContactsViewModel.getText().observe(getViewLifecycleOwner(), new Observer<String>() {

*@Override*

*public void onChanged(@Nullable String s) {* textView.setText(s);

*}*

*});*

*return root;*

*}*

*}*

# ContactsViewModel.java

*package com.example.navigationco4\_q5.ui.contacts;*

*import androidx.lifecycle.LiveData;*

*import androidx.lifecycle.MutableLiveData;* import androidx.lifecycle.ViewModel;

*public class ContactsViewModel extends ViewModel {* private MutableLiveData<String> mText;

*public ContactsViewModel() {*

*mText = new MutableLiveData<>();* mText.setValue("This is contacts fragment");

*}*

*public LiveData<String> getText() {*

*return mText;*

*}*

*}*

# GalleryFragment.java

*package com.example.navigationco4\_q5.ui.gallery;*

*import android.os.Bundle;*

*import android.view.LayoutInflater;* import android.view.View;

*import android.view.ViewGroup;* import android.widget.TextView;

*import androidx.annotation.NonNull;* import androidx.annotation.Nullable; import androidx.fragment.app.Fragment; import androidx.lifecycle.Observer;

*import androidx.lifecycle.ViewModelProvider;*

*import com.example.navigationco4\_q5.R;*

*import com.example.navigationco4\_q5.databinding.FragmentGalleryBinding;* public class GalleryFragment extends Fragment {

*private GalleryViewModel galleryViewModel;* private FragmentGalleryBinding binding;

*public View onCreateView(@NonNull LayoutInflater inflater,* ViewGroup container, Bundle savedInstanceState) {

*galleryViewModel =*

*new ViewModelProvider(this).get(GalleryViewModel.class);*

*binding = FragmentGalleryBinding.inflate(inflater, container, false);* View root = binding.getRoot();

*final TextView textView = binding.textGallery;* galleryViewModel.getText().observe(getViewLifecycleOwner(), new Observer<String>() {

*@Override*

*public void onChanged(@Nullable String s) {* textView.setText(s);

*}*

*});*

*return root;*

*}*

*@Override*

*public void onDestroyView() {* super.onDestroyView(); binding = null;

*}*

*}*

# GalleryViewModel.java

*package com.example.navigationco4\_q5.ui.gallery;*

*import androidx.lifecycle.LiveData;*

*import androidx.lifecycle.MutableLiveData;* import androidx.lifecycle.ViewModel;

*public class GalleryViewModel extends ViewModel {* private MutableLiveData<String> mText;

*public GalleryViewModel() {*

*mText = new MutableLiveData<>();* mText.setValue("This is gallery fragment");

*}*

*public LiveData<String> getText() {* return mText;

*}*

*}*

# HomeFragment.java

*package com.example.navigationco4\_q5.ui.home;*

*import android.os.Bundle;*

*import android.view.LayoutInflater;* import android.view.View;

*import android.view.ViewGroup;* import android.widget.TextView;

*import androidx.annotation.NonNull;*

*import androidx.annotation.Nullable;* import androidx.fragment.app.Fragment; import androidx.lifecycle.Observer;

*import androidx.lifecycle.ViewModelProvider;*

*import com.example.navigationco4\_q5.R;*

*import com.example.navigationco4\_q5.databinding.FragmentHomeBinding;* public class HomeFragment extends Fragment {

*private HomeViewModel homeViewModel;* private FragmentHomeBinding binding;

*public View onCreateView(@NonNull LayoutInflater inflater,* ViewGroup container, Bundle savedInstanceState) {

*homeViewModel =*

*new ViewModelProvider(this).get(HomeViewModel.class);*

*binding = FragmentHomeBinding.inflate(inflater, container, false);* View root = binding.getRoot();

*final TextView textView = binding.textHome;* homeViewModel.getText().observe(getViewLifecycleOwner(), new Observer<String>() {

*@Override*

*public void onChanged(@Nullable String s) {* textView.setText(s);

*}*

*});*

*return root;*

*}*

*@Override*

*public void onDestroyView() {* super.onDestroyView(); binding = null;

*}*

*}*

# HomeViewModel.java

*package com.example.navigationco4\_q5.ui.home;*

*import androidx.lifecycle.LiveData;*

*import androidx.lifecycle.MutableLiveData;* import androidx.lifecycle.ViewModel;

*public class HomeViewModel extends ViewModel {* private MutableLiveData<String> mText;

*public HomeViewModel() {*

*mText = new MutableLiveData<>();* mText.setValue("This is home fragment");

*}*

*public LiveData<String> getText() {* return mText;

*}*

*}*

# SlideshowFragment.java

*package com.example.navigationco4\_q5.ui.slideshow;*

*import android.os.Bundle;*

*import android.view.LayoutInflater;* import android.view.View;

*import android.view.ViewGroup;* import android.widget.TextView;

*import androidx.annotation.NonNull;* import androidx.annotation.Nullable; import androidx.fragment.app.Fragment; import androidx.lifecycle.Observer;

*import androidx.lifecycle.ViewModelProvider;*

*import com.example.navigationco4\_q5.R;*

*import com.example.navigationco4\_q5.databinding.FragmentSlideshowBinding;* public class SlideshowFragment extends Fragment {

*private SlideshowViewModel slideshowViewModel;* private FragmentSlideshowBinding binding;

*public View onCreateView(@NonNull LayoutInflater inflater,* ViewGroup container, Bundle savedInstanceState) {

*slideshowViewModel =*

*new ViewModelProvider(this).get(SlideshowViewModel.class);*

*binding = FragmentSlideshowBinding.inflate(inflater, container, false);* View root = binding.getRoot();

*final TextView textView = binding.textSlideshow;* slideshowViewModel.getText().observe(getViewLifecycleOwner(), new Observer<String>() {

*@Override*

*public void onChanged(@Nullable String s) {* textView.setText(s);

*}*

*});*

*return root;*

*}*

*@Override*

*public void onDestroyView() {* super.onDestroyView(); binding = null;

*}*

*}*

# SlideshowViewModel.java

*package com.example.navigationco4\_q5.ui.slideshow;*

*import androidx.lifecycle.LiveData;*

*import androidx.lifecycle.MutableLiveData;* import androidx.lifecycle.ViewModel;

*public class SlideshowViewModel extends ViewModel {* private MutableLiveData<String> mText;

*public SlideshowViewModel() {*

*mText = new MutableLiveData<>();* mText.setValue("This is slideshow fragment");

*}*

*public LiveData<String> getText() {* return mText;

*}*

*}*

# XML CODE:

**Activity\_main.xml**

*<?xml version="1.0" encoding="utf-8"?>*

*<androidx.drawerlayout.widget.DrawerLayout* xmlns:andr[oid="http://schemas.android.com/apk/res/andr](http://schemas.android.com/apk/res/android)oid"

[*xmlns:app="http://schemas.android.com/apk/r*](http://schemas.android.com/apk/res-auto)*es-auto"* [xmlns:tools="http://schemas.andr](http://schemas.android.com/tools)oid.com/tools" android:id="@+id/drawer\_layout" android:layout\_width="match\_parent" android:layout\_height="match\_parent" android:fitsSystemWindows="true" tools:openDrawer="start">

*<include* android:id="@+id/app\_bar\_main" layout="@layout/app\_bar\_main" android:layout\_width="match\_parent"

*android:layout\_height="match\_parent" />*

*<com.google.android.material.navigation.NavigationView* android:id="@+id/nav\_view" android:layout\_width="wrap\_content" android:layout\_height="match\_parent" android:layout\_gravity="start" android:fitsSystemWindows="true" app:headerLayout="@layout/nav\_header\_main" app:menu="@menu/activity\_main\_drawer" />

*</androidx.drawerlayout.widget.DrawerLayout>*

# Fragments\_contacts.xml

*<?xml version="1.0" encoding="utf-8"?>*

*<androidx.constraintlayout.widget.ConstraintLayout* xmlns:andr[oid="http://schemas.android.com/apk/res/andr](http://schemas.android.com/apk/res/android)oid"

[*xmlns:app="http://schemas.android.com/apk/r*](http://schemas.android.com/apk/res-auto)*es-auto"* [xmlns:tools="http://schemas.andr](http://schemas.android.com/tools)oid.com/tools" android:layout\_width="match\_parent"

*android:layout\_height="match\_parent"* tools:context=".ui.contacts.ContactsFragments">

*<TextView* android:id="@+id/text\_contacts" android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:layout\_marginStart="8dp" android:layout\_marginTop="8dp" android:layout\_marginEnd="8dp" android:textAlignment="center" android:textSize="20sp"

*app:layout\_constraintBottom\_toBottomOf="parent"* app:layout\_constraintEnd\_toEndOf="parent" app:layout\_constraintStart\_toStartOf="parent" app:layout\_constraintTop\_toTopOf="parent" />

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

# Fragments\_home.xml

*<?xml version="1.0" encoding="utf-8"?>*

*<androidx.constraintlayout.widget.ConstraintLayout* xmlns:andr[oid="http://schemas.android.com/apk/res/andr](http://schemas.android.com/apk/res/android)oid"

[*xmlns:app="http://schemas.android.com/apk/r*](http://schemas.android.com/apk/res-auto)*es-auto"* [xmlns:tools="http://schemas.andr](http://schemas.android.com/tools)oid.com/tools" android:layout\_width="match\_parent" android:layout\_height="match\_parent" tools:context=".ui.home.HomeFragment">

*<TextView* android:id="@+id/text\_home" android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:layout\_marginStart="8dp" android:layout\_marginTop="8dp" android:layout\_marginEnd="8dp" android:textAlignment="center" android:textSize="20sp"

*app:layout\_constraintBottom\_toBottomOf="parent"* app:layout\_constraintEnd\_toEndOf="parent" app:layout\_constraintStart\_toStartOf="parent" app:layout\_constraintTop\_toTopOf="parent" />

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

# Fragments\_gallery.xml

*<?xml version="1.0" encoding="utf-8"?>*

*<androidx.constraintlayout.widget.ConstraintLayout* xmlns:andr[oid="http://schemas.android.com/apk/res/andr](http://schemas.android.com/apk/res/android)oid"

[*xmlns:app="http://schemas.android.com/apk/r*](http://schemas.android.com/apk/res-auto)*es-auto"* [xmlns:tools="http://schemas.andr](http://schemas.android.com/tools)oid.com/tools" android:layout\_width="match\_parent" android:layout\_height="match\_parent" tools:context=".ui.gallery.GalleryFragment">

*<TextView* android:id="@+id/text\_gallery" android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:layout\_marginStart="8dp" android:layout\_marginTop="8dp" android:layout\_marginEnd="8dp" android:textAlignment="center" android:textSize="20sp"

*app:layout\_constraintBottom\_toBottomOf="parent"* app:layout\_constraintEnd\_toEndOf="parent" app:layout\_constraintStart\_toStartOf="parent" app:layout\_constraintTop\_toTopOf="parent" />

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

# Fragments\_slideshow.xml

*<?xml version="1.0" encoding="utf-8"?>*

*<androidx.constraintlayout.widget.ConstraintLayout* xmlns:andr[oid="http://schemas.android.com/apk/res/andr](http://schemas.android.com/apk/res/android)oid"

[*xmlns:app="http://schemas.android.com/apk/r*](http://schemas.android.com/apk/res-auto)*es-auto"* [xmlns:tools="http://schemas.andr](http://schemas.android.com/tools)oid.com/tools" android:layout\_width="match\_parent" android:layout\_height="match\_parent" tools:context=".ui.slideshow.SlideshowFragment">

*<TextView* android:id="@+id/text\_slideshow" android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:layout\_marginStart="8dp"

*android:layout\_marginTop="8dp"* android:layout\_marginEnd="8dp" android:textAlignment="center" android:textSize="20sp" app:layout\_constraintBottom\_toBottomOf="parent" app:layout\_constraintEnd\_toEndOf="parent" app:layout\_constraintStart\_toStartOf="parent" app:layout\_constraintTop\_toTopOf="parent" />

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

# Nav\_header\_main.xml

*<?xml version="1.0" encoding="utf-8"?>*

*<LinearLayout xmlns:andr*[*oid="http://schemas.android.com/apk/res/andr*](http://schemas.android.com/apk/res/android)*oid"* [xmlns:app="http://schemas.android.com/apk/r](http://schemas.android.com/apk/res-auto)es-auto" android:layout\_width="match\_parent" android:layout\_height="@dimen/nav\_header\_height" android:background="@drawable/side\_nav\_bar" android:gravity="bottom"

*android:orientation="vertical"* android:paddingLeft="@dimen/activity\_horizontal\_margin" android:paddingTop="@dimen/activity\_vertical\_margin" android:paddingRight="@dimen/activity\_horizontal\_margin" android:paddingBottom="@dimen/activity\_vertical\_margin" android:theme="@style/ThemeOverlay.AppCompat.Dark">

*<ImageView* android:id="@+id/imageView" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content"

*android:contentDescription="@string/nav\_header\_desc"* android:paddingTop="@dimen/nav\_header\_vertical\_spacing" app:srcCompat="@drawable/puppy" />

*<TextView* android:layout\_width="match\_parent" android:layout\_height="wrap\_content"

*android:paddingTop="@dimen/nav\_header\_vertical\_spacing"* android:text="@string/nav\_header\_title" android:textAppearance="@style/TextAppearance.AppCompat.Body1" />

*<TextView*

*android:id="@+id/textView"* android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:text="@string/nav\_header\_subtitle" />

*</LinearLayout>*

# Activity\_main\_drawer.xml

*<?xml version="1.0" encoding="utf-8"?>*

*<menu xmlns:andr*[*oid="http://schemas.android.com/apk/res/andr*](http://schemas.android.com/apk/res/android)*oid"* [xmlns:tools="http://schemas.andr](http://schemas.android.com/tools)oid.com/tools" tools:showIn="navigation\_view">

*<group android:checkableBehavior="single">*

*<item*

*android:id="@+id/nav\_home"* android:icon="@drawable/ic\_menu\_camera" android:title="@string/menu\_home" />

*<item*

*android:id="@+id/nav\_gallery"* android:icon="@drawable/ic\_menu\_gallery" android:title="@string/menu\_gallery" />

*<item*

*android:id="@+id/nav\_slideshow"* android:icon="@drawable/ic\_menu\_slideshow" android:title="@string/menu\_slideshow" />

*<item*

*android:id="@+id/nav\_contacts"* android:icon="@drawable/ic\_baseline\_contacts\_24" android:title="@string/menu\_contacts" />

*</group>*

*</menu>*

# Mobile\_navigation.xml

*<?xml version="1.0" encoding="utf-8"?>*

*<navigation xmlns:andr*[*oid="http://schemas.android.com/apk/res/andr*](http://schemas.android.com/apk/res/android)*oid"* [xmlns:app="http://schemas.android.com/apk/r](http://schemas.android.com/apk/res-auto)es-auto" [xmlns:tools="http://schemas.andr](http://schemas.android.com/tools)oid.com/tools" android:id="@+id/mobile\_navigation" app:startDestination="@+id/nav\_home">

*<fragment* android:id="@+id/nav\_home"

*android:name="com.example.navigationco4\_q5.ui.home.HomeFragment"* android:label="@string/menu\_home" tools:layout="@layout/fragment\_home" />

*<fragment* android:id="@+id/nav\_gallery"

*android:name="com.example.navigationco4\_q5.ui.gallery.GalleryFragment"* android:label="@string/menu\_gallery" tools:layout="@layout/fragment\_gallery" />

*<fragment* android:id="@+id/nav\_slideshow"

*android:name="com.example.navigationco4\_q5.ui.slideshow.SlideshowFragment"* android:label="@string/menu\_slideshow" tools:layout="@layout/fragment\_slideshow" />

*<fragment* android:id="@+id/nav\_contacts"

*android:name="com.example.navigationco4\_q5.ui.contacts.ContactsFragments"* android:label="@string/menu\_contacts" tools:layout="@layout/fragment\_contacts" />

*</navigation>*