LAPORAN PRAKTIKUM

CODELABS MATERIAL DESIGN

PEMROGRAMAN PERANGKAT BERGERAK

Disusun Oleh :

LIA NUR FADILAH   (1603104)

TEKNIK INFORMATIKA

POLITEKNIK NEGERI INDRAMAYU

2018

1. Pertama buka aplikasi android, dan **Create New Project**

2. Buat file activity pada java

   © CardContentFragment
   © DetailActivity
   © ListContentFragment
   © MainActivity
   © TileContentFragment

Ketikkan Source code pada CardContentFragment

```java
import android.content.Context;
import android.content.Intent;
import android.content.res.Resources;
import android.content.res.TypedArray;
import android.graphics.drawable.Drawable;
import android.os.Bundle;
import android.support.design.widget.Snackbar;
import android.support.v4.app.Fragment;
import android.support.v7.widget.LinearLayoutManager;
import android.support.v7.widget.RecyclerView;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.Button;
import android.widget.ImageButton;
import android.widget.ImageView;
import android.widget.TextView;

public class CardContentFragment extends Fragment {

    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container,
                             Bundle savedInstanceState) {
        RecyclerView recyclerView = (RecyclerView) inflater.inflate(
                R.layout.recycler_view, container, attachToRoot: false);
        ContentAdapter adapter = new ContentAdapter(recyclerView.getContext());
        recyclerView.setAdapter(adapter);
        recyclerView.setHasFixedSize(true);
        recyclerView.setLayoutManager(new LinearLayoutManager(getActivity()));
        return recyclerView;
    }
}
    public static class ViewHolder extends RecyclerView.ViewHolder {
        public ImageView picture;
        public TextView name;
        public TextView description;
        public ViewHolder(LayoutInflater inflater, ViewGroup parent) {
            super(inflater.inflate(R.layout.item_card, parent, attachToRoot: false));
            picture = (ImageView) itemView.findViewById(R.id.card_image);
            name = (TextView) itemView.findViewById(R.id.card_title);
            description = (TextView) itemView.findViewById(R.id.card_text);
            itemView.setOnClickListener((v) -> {
                    Context context = v.getContext();
                    Intent intent = new Intent(context, DetailActivity.class);
                    intent.putExtra(DetailActivity.EXTRA_POSITION, getAdapterPosition());
                    context.startActivity(intent);
            });

            // Adding Snackbar to Action Button inside card
            Button button = (Button)itemView.findViewById(R.id.action_button);
            button.setOnClickListener((v) -> {
                    Snackbar.make(v, text: "Action is pressed",
                            Snackbar.LENGTH_LONG).show();
            });

            ImageButton favoriteImageButton =
                    (ImageButton) itemView.findViewById(R.id.favorite_button);
            favoriteImageButton.setOnClickListener((v) -> {
                    Snackbar.make(v, text: "Added to Favorite",
                            Snackbar.LENGTH_LONG).show();
            });
```

```
            shareImageButton.setOnClickListener((v) → {
                Snackbar.make(v,  text: "Share article",
                        Snackbar.LENGTH_LONG).show();
            });
        }
    }

    /**
     * Adapter to display recycler view.
     */
    public static class ContentAdapter extends RecyclerView.Adapter<ViewHolder> {
        // Set numbers of Card in RecyclerView.
        private static final int LENGTH = 18;

        private final String[] mPlaces;
        private final String[] mPlaceDesc;
        private final Drawable[] mPlacePictures;

        public ContentAdapter(Context context) {
            Resources resources = context.getResources();
            mPlaces = resources.getStringArray(R.array.places);
            mPlaceDesc = resources.getStringArray(R.array.place_desc);
            TypedArray a = resources.obtainTypedArray(R.array.places_picture);
            mPlacePictures = new Drawable[a.length()];
            for (int i = 0; i < mPlacePictures.length; i++) {
                mPlacePictures[i] = a.getDrawable(i);
            }
            a.recycle();
        }

        @Override
        public ViewHolder onCreateViewHolder(ViewGroup parent, int viewType) {
            return new ViewHolder(LayoutInflater.from(parent.getContext()), parent);
        }

        @Override
        public void onBindViewHolder(ViewHolder holder, int position) {
            holder.picture.setImageDrawable(mPlacePictures[position % mPlacePictures.length]);
            holder.name.setText(mPlaces[position % mPlaces.length]);
            holder.description.setText(mPlaceDesc[position % mPlaceDesc.length]);
        }

        @Override
        public int getItemCount() { return LENGTH; }
    }
}
```

Ketikkan Source code pada DetailActivity

```java
import android.content.res.Resources;
import android.content.res.TypedArray;
import android.support.design.widget.CollapsingToolbarLayout;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.support.v7.widget.Toolbar;
import android.widget.ImageView;
import android.widget.TextView;

public class DetailActivity extends AppCompatActivity {

    public static final String EXTRA_POSITION = "position";

    @Override
    public void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_detail);
        setSupportActionBar((Toolbar) findViewById(R.id.toolbar));
        getSupportActionBar().setDisplayHomeAsUpEnabled(true);
        // Set Collapsing Toolbar layout to the screen
        CollapsingToolbarLayout collapsingToolbar =
                (CollapsingToolbarLayout) findViewById(R.id.collapsing_toolbar);
        // Set title of Detail page
        // collapsingToolbar.setTitle(getString(R.string.item_title));

        int postion = getIntent().getIntExtra(EXTRA_POSITION, defaultValue: 0);
        Resources resources = getResources();
        String[] places = resources.getStringArray(R.array.places);
        collapsingToolbar.setTitle(places[postion % places.length]);

        String[] placeDetails = resources.getStringArray(R.array.place_details);
        TextView placeDetail = (TextView) findViewById(R.id.place_detail);
        placeDetail.setText(placeDetails[postion % placeDetails.length]);

        String[] placeLocations = resources.getStringArray(R.array.place_locations);
        TextView placeLocation =  (TextView) findViewById(R.id.place_location);
        placeLocation.setText(placeLocations[postion % placeLocations.length]);

        TypedArray placePictures = resources.obtainTypedArray(R.array.places_picture);
        ImageView placePicutre = (ImageView) findViewById(R.id.image);
        placePicutre.setImageDrawable(placePictures.getDrawable( index: postion % placePictures.length()));

        placePictures.recycle();
    }
}
```

Ketikkan Source code pada ListContentFragment

```java
import android.content.Context;
import android.content.Intent;
import android.content.res.Resources;
import android.content.res.TypedArray;
import android.graphics.drawable.Drawable;
import android.os.Bundle;
import android.support.v4.app.Fragment;
import android.support.v7.widget.LinearLayoutManager;
import android.support.v7.widget.RecyclerView;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.ImageView;
import android.widget.TextView;

public class ListContentFragment extends Fragment {

    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container,
                             Bundle savedInstanceState) {
        RecyclerView recyclerView = (RecyclerView) inflater.inflate(
                R.layout.recycler_view, container, attachToRoot: false);
        ContentAdapter adapter = new ContentAdapter(recyclerView.getContext());
        recyclerView.setAdapter(adapter);
        recyclerView.setHasFixedSize(true);
        recyclerView.setLayoutManager(new LinearLayoutManager(getActivity()));
        return recyclerView;
    }

    public static class ViewHolder extends RecyclerView.ViewHolder {
        public ImageView avator;
        public TextView name;
        public TextView description;
        public ViewHolder(LayoutInflater inflater, ViewGroup parent) {
            super(inflater.inflate(R.layout.item_list, parent, attachToRoot: false));
            avator = (ImageView) itemView.findViewById(R.id.list_avatar);
            name = (TextView) itemView.findViewById(R.id.list_title);
            description = (TextView) itemView.findViewById(R.id.list_desc);
            itemView.setOnClickListener((v) -> {
                    Context context = v.getContext();
                    Intent intent = new Intent(context, DetailActivity.class);
                    intent.putExtra(DetailActivity.EXTRA_POSITION, getAdapterPosition());
                    context.startActivity(intent);
            });
        }
    }

    /**
     * Adapter to display recycler view.
     */
    public static class ContentAdapter extends RecyclerView.Adapter<ViewHolder> {
        // Set numbers of List in RecyclerView.
        private static final int LENGTH = 18;

        private final String[] mPlaces;
        private final String[] mPlaceDesc;
        private final Drawable[] mPlaceAvators;

        public ContentAdapter(Context context) {
            Resources resources = context.getResources();
```

```
            mPlaces = resources.getStringArray(R.array.places);
            mPlaceDesc = resources.getStringArray(R.array.place_desc);
            TypedArray a = resources.obtainTypedArray(R.array.place_avator);
            mPlaceAvators = new Drawable[a.length()];
            for (int i = 0; i < mPlaceAvators.length; i++) {
                mPlaceAvators[i] = a.getDrawable(i);
            }
            a.recycle();
        }
        @Override
        public ViewHolder onCreateViewHolder(ViewGroup parent, int viewType) {
            return new ViewHolder(LayoutInflater.from(parent.getContext()), parent);
        }

        @Override
        public void onBindViewHolder(ViewHolder holder, int position) {
            holder.avator.setImageDrawable(mPlaceAvators[position % mPlaceAvators.length]);
            holder.name.setText(mPlaces[position % mPlaces.length]);
            holder.description.setText(mPlaceDesc[position % mPlaceDesc.length]);
        }

        @Override
        public int getItemCount() { return LENGTH; }
    }

}
```

Ketikkan Source code pada MainActivity

```
import android.os.Bundle;
import android.support.design.widget.FloatingActionButton;
import android.support.design.widget.NavigationView;
import android.support.design.widget.Snackbar;
import android.support.design.widget.TabLayout;
import android.support.graphics.drawable.VectorDrawableCompat;
import android.support.v4.app.Fragment;
import android.support.v4.app.FragmentManager;
import android.support.v4.app.FragmentPagerAdapter;
import android.support.v4.content.res.ResourcesCompat;
import android.support.v4.view.GravityCompat;
import android.support.v4.view.ViewPager;
import android.support.v4.widget.DrawerLayout;
import android.support.v7.app.ActionBar;
import android.support.v7.app.AppCompatActivity;
import android.support.v7.widget.Toolbar;
import android.view.Menu;
import android.view.MenuItem;
import android.view.View;

import java.util.ArrayList;
import java.util.List;

public class MainActivity extends AppCompatActivity {

    private DrawerLayout mDrawerLayout;

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

```java
Toolbar toolbar = (Toolbar) findViewById(R.id.toolbar);
setSupportActionBar(toolbar);
// Setting ViewPager for each Tabs
ViewPager viewPager = (ViewPager) findViewById(R.id.viewpager);
setupViewPager(viewPager);
// Set Tabs inside Toolbar
TabLayout tabs = (TabLayout) findViewById(R.id.tabs);
tabs.setupWithViewPager(viewPager);
// Create Navigation drawer and inlfate layout
NavigationView navigationView = (NavigationView) findViewById(R.id.nav_view);
mDrawerLayout = (DrawerLayout) findViewById(R.id.drawer);
// Adding menu icon to Toolbar
ActionBar supportActionBar = getSupportActionBar();
if (supportActionBar != null) {
    VectorDrawableCompat indicator
            = VectorDrawableCompat.create(getResources(), R.drawable.ic_menu, getTheme());
    indicator.setTint(ResourcesCompat.getColor(getResources(),R.color.white,getTheme()));
    supportActionBar.setHomeAsUpIndicator(indicator);
    supportActionBar.setDisplayHomeAsUpEnabled(true);
}
// Set behavior of Navigation drawer
navigationView.setNavigationItemSelectedListener(
        (menuItem) -> {
                // Set item in checked state
                menuItem.setChecked(true);
                // TODO: handle navigation
                // Closing drawer on item click
                mDrawerLayout.closeDrawers();
                return true;
        });
```

```java
        FloatingActionButton fab = (FloatingActionButton) findViewById(R.id.fab);
        fab.setOnClickListener((v) -> {
                Snackbar.make(v, text: "Hello Snackbar!",
                        Snackbar.LENGTH_LONG).show();
        });
    }

    // Add Fragments to Tabs
    private void setupViewPager(ViewPager viewPager) {
        Adapter adapter = new Adapter(getSupportFragmentManager());
        adapter.addFragment(new ListContentFragment(), title: "List");
        adapter.addFragment(new TileContentFragment(), title: "Tile");
        adapter.addFragment(new CardContentFragment(), title: "Card");
        viewPager.setAdapter(adapter);
    }

    static class Adapter extends FragmentPagerAdapter {
        private final List<Fragment> mFragmentList = new ArrayList<>();
        private final List<String> mFragmentTitleList = new ArrayList<>();

        public Adapter(FragmentManager manager) { super(manager); }

        @Override
        public Fragment getItem(int position) { return mFragmentList.get(position); }

        @Override
        public int getCount() { return mFragmentList.size(); }

        public void addFragment(Fragment fragment, String title) {
            mFragmentList.add(fragment);
            mFragmentTitleList.add(title);
```

```java
    public void addFragment(Fragment fragment, String title) {
        mFragmentList.add(fragment);
        mFragmentTitleList.add(title);
    }

    @Override
    public CharSequence getPageTitle(int position) { return mFragmentTitleList.get(position); }
}

    @Override
    public boolean onCreateOptionsMenu(Menu menu) {
        // Inflate the menu; this adds items to the action bar if it is present.
        getMenuInflater().inflate(R.menu.menu_main, menu);
        return true;
    }

    @Override
    public boolean onOptionsItemSelected(MenuItem item) {
        // Handle action bar item clicks here. The action bar will
        // automatically handle clicks on the Home/Up button, so long
        // as you specify a parent activity in AndroidManifest.xml.
        int id = item.getItemId();
        //noinspection SimplifiableIfStatement
        if (id == R.id.action_settings) {
            return true;
        } else if (id == android.R.id.home) {
            mDrawerLayout.openDrawer(GravityCompat.START);
        }
        return super.onOptionsItemSelected(item);
    }
}
```

Ketikkan Source code pada TileContentFragment

```java
import android.content.Context;
import android.content.Intent;
import android.content.res.Resources;
import android.content.res.TypedArray;
import android.graphics.drawable.Drawable;
import android.os.Bundle;
import android.support.v4.app.Fragment;
import android.support.v7.widget.GridLayoutManager;
import android.support.v7.widget.RecyclerView;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.ImageView;
import android.widget.TextView;

public class TileContentFragment extends Fragment {

    @Override
    public void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState); }

    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container,
                             Bundle savedInstanceState) {
        RecyclerView recyclerView = (RecyclerView) inflater.inflate(
                R.layout.recycler_view, container, attachToRoot: false);
        ContentAdapter adapter = new ContentAdapter(recyclerView.getContext());
        recyclerView.setAdapter(adapter);
        recyclerView.setHasFixedSize(true);
        // Set padding for Tiles
        int tilePadding = 8dp;
        recyclerView.setPadding(tilePadding, tilePadding, tilePadding, tilePadding);

        recyclerView.setLayoutManager(new GridLayoutManager(getActivity(), spanCount: 2));
        return recyclerView;
    }

    public static class ViewHolder extends RecyclerView.ViewHolder {
        public ImageView picture;
        public TextView name;
        public ViewHolder(LayoutInflater inflater, ViewGroup parent) {
            super(inflater.inflate(R.layout.item_tile, parent, attachToRoot: false));
            picture = (ImageView) itemView.findViewById(R.id.tile_picture);
            name = (TextView) itemView.findViewById(R.id.tile_title);
            itemView.setOnClickListener((v) -> {
                    Context context = v.getContext();
                    Intent intent = new Intent(context, DetailActivity.class);
                    intent.putExtra(DetailActivity.EXTRA_POSITION, getAdapterPosition());
                    context.startActivity(intent);
            });
        }
    }
}
```

```java
public static class ContentAdapter extends RecyclerView.Adapter<ViewHolder> {
    // Set numbers of Tiles in RecyclerView.
    private static final int LENGTH = 18;

    private final String[] mPlaces;
    private final Drawable[] mPlacePictures;
    public ContentAdapter(Context context) {
        Resources resources = context.getResources();
        mPlaces = resources.getStringArray(R.array.places);
        TypedArray a = resources.obtainTypedArray(R.array.places_picture);
        mPlacePictures = new Drawable[a.length()];
        for (int i = 0; i < mPlacePictures.length; i++) {
            mPlacePictures[i] = a.getDrawable(i);
        }
        a.recycle();
    }

    @Override
    public ViewHolder onCreateViewHolder(ViewGroup parent, int viewType) {
        return new ViewHolder(LayoutInflater.from(parent.getContext()), parent);
    }

    @Override
    public void onBindViewHolder(ViewHolder holder, int position) {
        holder.picture.setImageDrawable(mPlacePictures[position % mPlacePictures.length]);
        holder.name.setText(mPlaces[position % mPlaces.length]);
    }

    @Override
    public int getItemCount() { return LENGTH; }
}
```
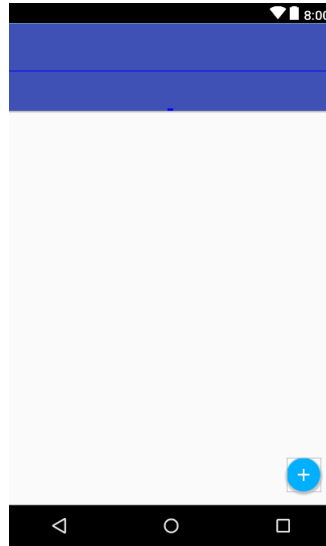
3. Dan buat file activity pada xml

▼ 📁 layout
    📄 activity_detail.xml
    📄 activity_main.xml
    📄 item_card.xml
    📄 item_list.xml
    📄 item_tile.xml
    📄 navheader.xml
    📄 recycler_view.xml

Buat layout pada activity_main.xml, dan ketikkan source code dibawah ini

```xml
<?xml version="1.0" encoding="utf-8"?>
<android.support.v4.widget.DrawerLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    android:id="@+id/drawer"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:fitsSystemWindows="true">

    <android.support.design.widget.CoordinatorLayout
        android:id="@+id/main_content"
        android:layout_width="match_parent"
        android:layout_height="match_parent">

        <android.support.design.widget.AppBarLayout
            android:id="@+id/appbar"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:theme="@style/ThemeOverlay.AppCompat.Dark.ActionBar">

            <android.support.v7.widget.Toolbar
                android:id="@+id/toolbar"
                android:layout_width="match_parent"
                android:layout_height="?attr/actionBarSize"
                android:background="?attr/colorPrimary"
                app:layout_scrollFlags="scroll|enterAlways"
                app:popupTheme="@style/ThemeOverlay.AppCompat.Light" />

            <android.support.design.widget.TabLayout
                android:id="@+id/tabs"
```

```xml
                android:layout_width="match_parent"
                android:layout_height="wrap_content" />
        </android.support.design.widget.AppBarLayout>

        <android.support.v4.view.ViewPager
            android:id="@+id/viewpager"
            android:layout_width="match_parent"
            android:layout_height="match_parent"
            app:layout_behavior="android.support.design.widget.AppBarLayout$ScrollingVie..." />

        <android.support.design.widget.FloatingActionButton
            android:id="@+id/fab"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_gravity="right|bottom"
            android:layout_marginBottom="16dp"
            android:layout_marginRight="16dp"
            app:srcCompat="@drawable/ic_add"
            android:tint="@color/white"/>
    </android.support.design.widget.CoordinatorLayout>

    <android.support.design.widget.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/navheader"
        app:menu="@menu/menu_navigation" />


</android.support.v4.widget.DrawerLayout>
```

Kemudian buat layout pada activity_detail.xml, dan ketikkan source code dibawah ini

```xml
<?xml version="1.0" encoding="utf-8"?>
<android.support.design.widget.CoordinatorLayout 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:id="@+id/detail_content"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:fitsSystemWindows="true">

    <android.support.design.widget.AppBarLayout
        android:id="@+id/appbar"
        android:layout_width="match_parent"
        android:layout_height="256dp"
        android:fitsSystemWindows="true"
        android:theme="@style/ThemeOverlay.AppCompat.Dark.ActionBar">

        <android.support.design.widget.CollapsingToolbarLayout
            android:id="@+id/collapsing_toolbar"
            android:layout_width="match_parent"
            android:layout_height="match_parent"
            android:fitsSystemWindows="true"
            android:theme="@style/ThemeOverlay.AppCompat.Dark"
            app:contentScrim="?attr/colorPrimary"
            app:expandedTitleMarginEnd="72dp"
            app:expandedTitleMarginStart="16dp"
            app:layout_scrollFlags="scroll|exitUntilCollapsed">

            <ImageView
                android:id="@+id/image"
                android:layout_width="match_parent"
                android:layout_height="match_parent"
                tools:background="@drawable/a"
                android:fitsSystemWindows="true"
                android:scaleType="centerCrop"
                app:layout_collapseMode="parallax" />

            <android.support.v7.widget.Toolbar
                android:id="@+id/toolbar"
                android:layout_width="match_parent"
                android:layout_height="?attr/actionBarSize"
                app:layout_collapseMode="pin"
                app:popupTheme="@style/ThemeOverlay.AppCompat.Light" />

        </android.support.design.widget.CollapsingToolbarLayout>
    </android.support.design.widget.AppBarLayout>

    <android.support.v4.widget.NestedScrollView
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        app:layout_behavior="android.support.design.widget.AppBarLayout$ScrollingVie...">

        <LinearLayout
            android:layout_width="match_parent"
            android:layout_height="match_parent"
            android:orientation="vertical"
            android:paddingLeft="72dp"
            android:paddingRight="16dp"
            android:paddingTop="16dp">
```

```xml
<TextView
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:textColor="?attr/colorAccent"
    android:text="Description"
    android:textSize="20sp"
    android:layout_marginBottom="16dp" />

<TextView
    android:id="@+id/place_detail"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    tools:text="Lorem ipsum dolor sit amet, consectetur adipisicing eli..." />

<TextView
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:textColor="?attr/colorAccent"
    android:text="Location"
    android:textSize="20sp"
    android:layout_marginBottom="16dp"
    android:layout_marginTop="16dp" />

<TextView
    android:id="@+id/place_location"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    tools:text="Cirebon" />
    </LinearLayout>
    </android.support.v4.widget.NestedScrollView>
</android.support.design.widget.CoordinatorLayout>
```
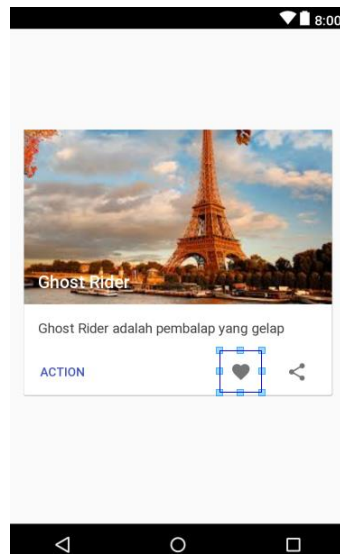
buat layout pada item_card.xml, dan ketikkan source code dibawah ini

```xml
<?xml version="1.0" encoding="utf-8"?>
<android.support.v7.widget.CardView 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:id="@+id/card_view"
    android:layout_width="match_parent"
    android:layout_height="304dp"
    android:layout_gravity="center"
    android:layout_marginBottom="16dp"
    android:layout_marginLeft="16dp"
    android:layout_marginRight="16dp"
    android:foreground="?attr/selectableItemBackground">

    <RelativeLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content">

        <ImageView
            android:id="@+id/card_image"
            android:layout_width="match_parent"
            android:layout_height="200dp"
            android:scaleType="centerCrop"
            tools:src="@drawable/a" />

        <TextView
            android:id="@+id/card_title"
            android:layout_width="match_parent"
            android:layout_height="40dp"
            android:layout_alignBottom="@+id/card_image"
            android:layout_marginLeft="16dp"
            tools:text="Ghost Rider"
            android:textAppearance="@style/TextAppearance.AppCompat.Title"
            android:textColor="@color/white" />

        <TextView
            android:id="@+id/card_text"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_below="@+id/card_image"
            android:layout_marginLeft="16dp"
            android:layout_marginTop="16dp"
            android:layout_marginBottom="16dp"
            android:layout_marginRight="16dp"
            tools:text="Ghost Rider adalah pembalap yang gelap"
            android:ellipsize="end"
            android:singleLine="true"
            android:textColor="@color/dark_grey"
            android:textSize="16sp" />

        <Button
            android:id="@+id/action_button"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_below="@+id/card_text"
            style="?android:attr/borderlessButtonStyle"
            android:textColor="?attr/colorPrimary"
            android:text="Action" />
```

```xml
        <ImageButton
            android:id="@+id/share_button"
            android:layout_width="48dp"
            android:layout_height="48dp"
            android:layout_marginRight="16dp"
            app:srcCompat="@drawable/ic_share"
            android:layout_below="@+id/card_text"
            android:layout_alignParentRight="true"
            style="?android:attr/borderlessButtonStyle"
            android:tint="@color/button_grey" />

        <ImageButton
            android:id="@+id/favorite_button"
            android:layout_width="48dp"
            android:layout_height="48dp"
            android:layout_marginRight="16dp"
            app:srcCompat="@drawable/ic_favorite"
            android:layout_below="@+id/card_text"
            android:layout_toLeftOf="@id/share_button"
            style="?android:attr/borderlessButtonStyle"
            android:tint="@color/button_grey" />
    </RelativeLayout>
</android.support.v7.widget.CardView>
```

Selanjutnya buat layout pada item_list.xml, dan ketikkan source code dibawah ini
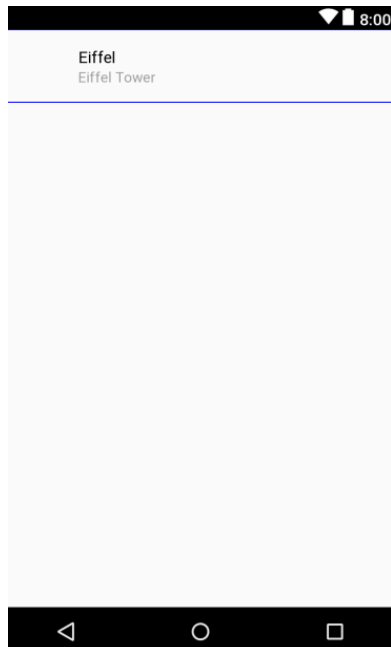
```xml
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    xmlns:tools="http://schemas.android.com/tools"
    android:background="?android:attr/selectableItemBackground"
    android:padding="16dp">

    <ImageView
        android:id="@+id/list_avatar"
        android:layout_width="40dp"
        android:layout_height="40dp"
        android:scaleType="centerCrop"
        />

    <TextView
        android:id="@+id/list_title"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginLeft="16dp"
        android:layout_toRightOf="@+id/list_avatar"
        tools:text="Eiffel"
        android:textAppearance="?attr/textAppearanceListItem"
        android:textSize="16sp" />

    <TextView
        android:id="@+id/list_desc"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_below="@+id/list_title"
        android:layout_marginLeft="16dp"
        android:layout_toRightOf="@+id/list_avatar"
        android:textColor="@color/medium_grey"
        android:ellipsize="end"
        android:singleLine="true"
        tools:text="Eiffel Tower"
        android:textAppearance="?attr/textAppearanceListItem"
        android:textSize="14sp" />
</RelativeLayout>
```

Kemudian buat layout pada item_tile.xml, dan ketikkan source code dibawah ini
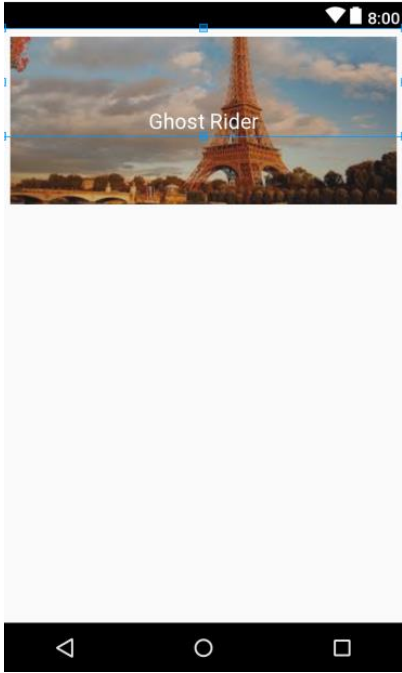
```xml
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    xmlns:tools="http://schemas.android.com/tools"
    android:background="?android:attr/selectableItemBackground"
    android:padding="8dp">

    <ImageView
        android:id="@+id/tile_picture"
        android:layout_width="match_parent"
        android:layout_height="160dp"
        android:scaleType="centerCrop"
        tools:src="@drawable/a" />

    <ImageView
        android:layout_width="match_parent"
        android:layout_height="160dp"
        android:alpha="0.3"
        android:background="@color/dark_grey" />

    <TextView
        android:id="@+id/tile_title"
        android:layout_width="match_parent"
        android:layout_height="160dp"
        android:layout_gravity="center"
        android:gravity="center"
        android:text="Ghost Rider"
        android:textColor="@color/white"
        android:textSize="20sp" />
</RelativeLayout>
```

Selanjutnya buat layout pada item_list.xml, dan ketikkan source code dibawah ini
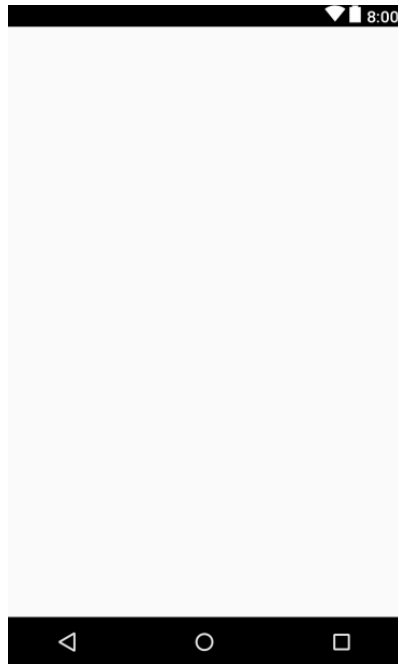
```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="222dp"
    android:background="@drawable/dre"
    android:orientation="vertical"
    android:padding="16dp">
</LinearLayout>
```

4. Selanjutnya buat layout pada item_list.xml, dan ketikkan source code dibawah ini
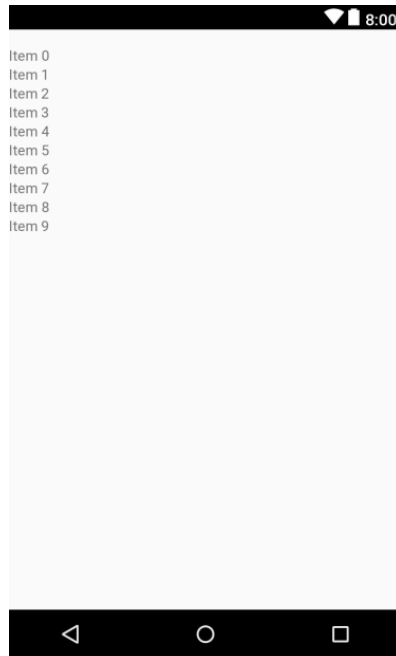
```xml
<?xml version="1.0" encoding="utf-8"?>
<android.support.v7.widget.RecyclerView xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    android:id="@+id/my_recycler_view"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:clipToPadding="false"
    android:paddingBottom="16dp"
    android:paddingTop="16dp"
    android:scrollbars="vertical"
    app:layout_behavior="android.support.design.widget.AppBarLayout$ScrollingVie..." />
```

5. Kemudian pilih layout seperti dibawah ini
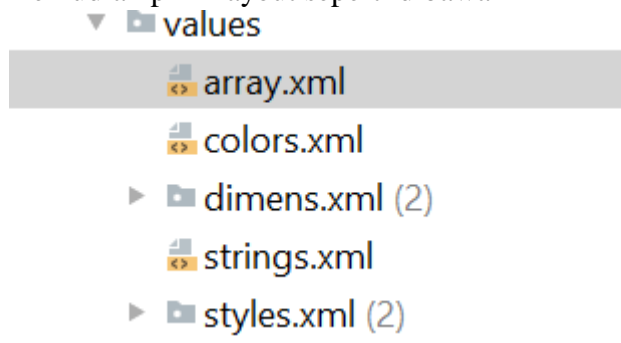
6. Masuk pada array.xml kemudian ketikkan source code

```xml
<?xml version="1.0" encoding="utf-8"?>
<resources>
    <string-array name="places">
        <item>Eiffel Tower</item>
        <item>Elizabeth Tower</item>
        <item>Mekkah</item>
        <item>Piha Beach</item>
        <item>Liberty</item>
        <item>Pisa Tower</item>
    </string-array>
    <string-array name="place_desc">
        <item>Paris</item>
        <item>London</item>
        <item>Saudi Arabia</item>
        <item>New Zealand</item>
        <item>New York</item>
        <item>Italia</item>
    </string-array>
    <string-array name="place_details">
        <item>Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do
        eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis
        nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute
        irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla
        pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia
        deserunt mollit anim id est laborum.
        </item>
        <item>Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do
        eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis
        nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute
        irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla
        pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia
        deserunt mollit anim id est laborum.
        </item>
        <item>Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do
        eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis
        nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute
        irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla
        pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia
        deserunt mollit anim id est laborum.
        </item>
        <item>Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do
        eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis
        nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute
        irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla
        pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia
        deserunt mollit anim id est laborum.
        </item>
        <item>Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do
        eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis
        nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute
        irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla
        pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia
        deserunt mollit anim id est laborum.
        </item>
        <item>Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do
        eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis
        nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute
        irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla
        pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia
        deserunt mollit anim id est laborum.
        </item>
    </string-array>
```

```xml
    <string-array name="place_locations">
        <item>Paris</item>
        <item>London</item>
        <item>Saudi Arabia</item>
        <item>New Zealand</item>
        <item>New York</item>
        <item>Italia</item>
    </string-array>
    <array name="place_avator">
        <item>@drawable/a_pict</item>
        <item>@drawable/b_pict</item>
        <item>@drawable/c_pict</item>
        <item>@drawable/d_pict</item>
        <item>@drawable/e_pict</item>
        <item>@drawable/f_pict</item>
    </array>
    <array name="places_picture">
        <item>@drawable/a</item>
        <item>@drawable/b</item>
        <item>@drawable/c</item>
        <item>@drawable/d</item>
        <item>@drawable/e</item>
        <item>@drawable/f</item>
    </array>
</resources>
```

7. Masuk pada colors.xml kemudian ketikkan source code

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="222dp"
    android:background="@drawable/dre"
    android:orientation="vertical"
    android:padding="16dp">
</LinearLayout>
```

8. Masuk pada string.xml kemudian ketikkan source code

```xml
<resources>
    <string name="app_name">"Material Design</string>
    <string name="action_settings">Settings</string>
    <string name="item_title">Eiffel</string>
    <string name="item_desc">The Eiffel Tower is a wrought iron lattice tower on the Champ de Mars in Paris, France.
        It is named after the engineer Gustave Eiffel, whose company designed and built the tower.
    </string>
    <string name="detail_desc">Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do
        eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis
        nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute
        irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla
        pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia
        deserunt mollit anim id est laborum.
    </string>
    <string name="detail_location">"Paris"</string>
</resources>
```

9. Sebelum memasukkan gambar, copy terlebih dahulu gambar tersebut pada bagian res, kemudian pilih paste di drawable

```
▼ ▣ res
  ▼ ▣ drawable
      ▣ a.jpg (nodpi)
      ▣ a_pict.jpg (nodpi)
      ▣ b.jpg (nodpi)
      ▣ b_pict.jpg (nodpi)
      ▣ c.jpg (nodpi)
      ▣ c_pict.jpg (nodpi)
      ▣ d.jpg (nodpi)
      ▣ d_pict.jpg (nodpi)
      ▣ dre.jpg (hdpi)
      ▣ e.jpg (nodpi)
      ▣ e_pict.jpg (nodpi)
      ▣ f.jpg (nodpi)
      ▣ f_pict.jpg (nodpi)
      ▣ ic_add.xml
    ▶ ▣ ic_bookmark_border_black
      ▣ ic_favorite.xml
    ▶ ▣ ic_favorite_black_24dp.png
    ▶ ▣ ic_home_black_24dp.png (
      ▣ ic_launcher_background.xm
      ▣ ic_launcher_foreground.xm
      ▣ ic_menu.xml
      ▣ ic_share.xml
```
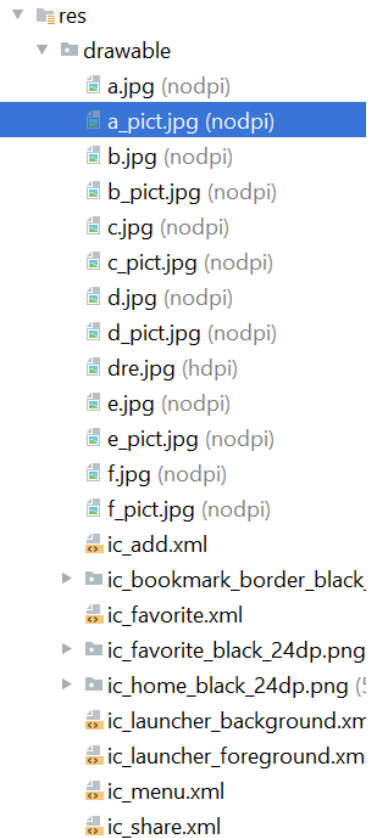
10. Untuk membuat icon launcher, copy icon tersebut kemudian paste pada mipmap

```
▼ ▣ mipmap
      ▣ el.png (xxhdpi)
    ▶ ▣ ic_launcher.png (5)
      ▣ ic_launcher.xml (anydpi-v26
    ▶ ▣ ic_launcher_round.png (5)
      ▣ ic_launcher_round.xml (anyc
```
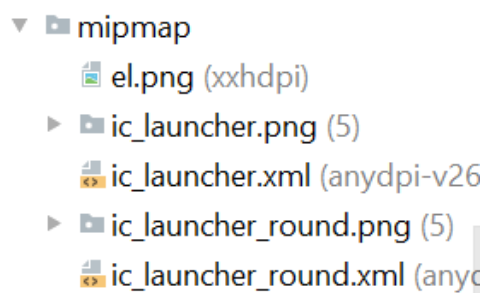
11. Output yang dihasilkan yaitu

One   🏠

Two   ❤️

Three   🔖

LIST   TILE   CARD

Eiffel Tower

Paris

ACTION   ❤️   +

Added to Favorite

LIST   TILE   CARD

Eiffel Tower

Paris

ACTION   ❤️   +

Hello Snackbar!

Eiffel Tower

Description

Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

Location

Paris