**Android Lab**

**LAB\_J1**

**Manifest.xml**

**activity\_main.xml**

<?xml version="1.0" encoding="utf-8"?>  
<RelativeLayout 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">  
  
 <CheckBox  
 android:id="@+id/red"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_centerVertical="true"  
 android:text="Red" />  
  
 <CheckBox  
 android:id="@+id/white"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_centerInParent="true"  
 android:layout\_toRightOf="@+id/red"  
 android:text="White" />  
  
 <CheckBox  
 android:id="@+id/green"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_centerInParent="true"  
 android:layout\_toRightOf="@+id/white"  
 android:text="Green" />  
  
 <CheckBox  
 android:id="@+id/yellow"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_centerInParent="true"  
 android:layout\_toRightOf="@+id/green"  
 android:text="Yellow" />  
  
 <androidx.appcompat.widget.AppCompatButton  
 android:id="@+id/displayBtn"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_above="@+id/colorTxt"  
 android:layout\_alignParentEnd="true"  
 android:layout\_marginEnd="168dp"  
 android:layout\_marginBottom="39dp"  
 android:text="Display" />  
  
 <TextView  
 android:id="@+id/colorTxt"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_alignBottom="@+id/yellow"  
 android:layout\_alignParentEnd="true"  
 android:layout\_centerVertical="true"  
 android:layout\_marginEnd="180dp"  
 android:layout\_marginBottom="-150dp" />  
</RelativeLayout>

**MainActivity.java**

package com.subhdroid.lab\_j1;

import androidx.appcompat.app.AppCompatActivity;

import androidx.appcompat.widget.AppCompatButton;

import android.os.Bundle;

import android.view.View;

import android.widget.CheckBox;

import android.widget.TextView;

public class MainActivity extends AppCompatActivity {

CheckBox red,white,green,yellow;

TextView colorTxt;

AppCompatButton displayBtn;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

red = findViewById(R.id.red);

white = findViewById(R.id.white);

green = findViewById(R.id.green);

yellow = findViewById(R.id.yellow);

colorTxt = findViewById(R.id.colorTxt);

displayBtn = findViewById(R.id.displayBtn);

displayBtn.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View view) {

String txt="";

if (red.isChecked()){

txt+="\n"+red.getText().toString();

}

if (white.isChecked()){

txt+="\n"+white.getText().toString();

}

if (green.isChecked()){

txt+="\n"+green.getText().toString();

}

if (yellow.isChecked()){

txt+="\n"+yellow.getText().toString();

}

colorTxt.setText(txt);

}

});

}

}

**LAB\_J2**

**Manifest.xml**

**activity\_main.xml**

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

<LinearLayout 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"

android:gravity="center"

android:orientation="vertical"

tools:context=".MainActivity">

<RadioGroup

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:orientation="vertical">

<RadioButton

android:id="@+id/mca"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:onClick="radioBtnClick"

android:text="MCA"

android:textSize="18sp" />

<RadioButton

android:id="@+id/mba"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:onClick="radioBtnClick"

android:text="MBA"

android:textSize="18sp" />

<RadioButton

android:id="@+id/mteck"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:onClick="radioBtnClick"

android:text="MTech"

android:textSize="18sp" />

<RadioButton

android:id="@+id/mcom"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:onClick="radioBtnClick"

android:text="MCom"

android:textSize="18sp" />

</RadioGroup>

</LinearLayout>

**MainActivity.java**

package com.subhdroid.lab\_j2;

//2. Design an android application by using RadioGroup and RadioButton to display list of PG

// courses names. Display selected PG course name by the user using Toast

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

import android.view.View;

import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

}

public void radioBtnClick(View view) {

int id = view.getId();

switch (id) {

case R.id.mca:

Toast.makeText(this, "MCA Selected", Toast.LENGTH\_SHORT).show();

break;

case R.id.mba:

Toast.makeText(this, "MBA Selected", Toast.LENGTH\_SHORT).show();

break;

case R.id.mteck:

Toast.makeText(this, "MTech Selected", Toast.LENGTH\_SHORT).show();

break;

case R.id.mcom:

Toast.makeText(this, "MCom Selected", Toast.LENGTH\_SHORT).show();

break;

}

}

}

**LAB\_J3**

**Manifest.xml**

**activity\_main.xml**

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

<LinearLayout 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"

android:gravity="center"

android:orientation="vertical"

tools:context=".MainActivity">

<RatingBar

android:id="@+id/ratingBar"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:numStars="5"

android:rating="3.5" />

<SeekBar

android:id="@+id/seekBar"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_marginTop="50dp" />

<TextView

android:id="@+id/ratingBarValue"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_marginTop="50dp"

android:textSize="18sp" />

<TextView

android:id="@+id/seekBarValue"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_marginTop="50dp"

android:textSize="18sp" />

</LinearLayout>

**MainActivity.java**

package com.subhdroid.lab\_j3;

//3. Write an android code by using LinearLayout to accept rating value of a seminar by using

// RatingBar and SeekBar. Display provided rating values using TextView components

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

import android.widget.RatingBar;

import android.widget.SeekBar;

import android.widget.TextView;

public class MainActivity extends AppCompatActivity {

RatingBar ratingBar;

SeekBar seekBar;

TextView ratingBarValue, seekBarValue;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

ratingBar = findViewById(R.id.ratingBar);

seekBar = findViewById(R.id.seekBar);

ratingBarValue = findViewById(R.id.ratingBarValue);

seekBarValue = findViewById(R.id.seekBarValue);

ratingBar.setOnRatingBarChangeListener(new RatingBar.OnRatingBarChangeListener() {

@Override

public void onRatingChanged(RatingBar ratingBar, float v, boolean b) {

ratingBarValue.setText("Rating bar value : " + v);

}

});

seekBar.setOnSeekBarChangeListener(new SeekBar.OnSeekBarChangeListener() {

@Override

public void onProgressChanged(SeekBar seekBar, int i, boolean b) {

seekBarValue.setText("SeekBar value : " + i);

}

@Override

public void onStartTrackingTouch(SeekBar seekBar) {

}

@Override

public void onStopTrackingTouch(SeekBar seekBar) {

}

});

}

}

**LAB\_J4**

**Manifest.xml**

**activity\_main.xml**

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

<GridLayout 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"

android:columnCount="2"

tools:context=".MainActivity">

<androidx.appcompat.widget.AppCompatImageButton

android:id="@+id/first"

android:layout\_width="150dp"

android:layout\_height="150dp"

android:layout\_margin="11dp"

android:src="@drawable/screenshot1" />

<androidx.appcompat.widget.AppCompatImageButton

android:id="@+id/second"

android:layout\_width="150dp"

android:layout\_height="150dp"

android:layout\_margin="11dp"

android:src="@drawable/screenshot2" />

<androidx.appcompat.widget.AppCompatImageButton

android:id="@+id/third"

android:layout\_width="150dp"

android:layout\_height="150dp"

android:layout\_margin="11dp"

android:src="@drawable/screenshot3" />

<androidx.appcompat.widget.AppCompatImageButton

android:id="@+id/forth"

android:layout\_width="150dp"

android:layout\_height="150dp"

android:layout\_margin="11dp"

android:src="@drawable/screenshot4" />

</GridLayout>

**MainActivity.java**

package com.subhdroid.lab\_j4;

//4. Design an android application to design image gallery by using ImageButton and GridLayout.

// As per the ImageButton click, display the image properties using Toast definition.

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

import android.widget.ImageButton;

import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

ImageButton first, second, third, forth, fifth, sixth;

first = findViewById(R.id.first);

second = findViewById(R.id.second);

third = findViewById(R.id.third);

forth = findViewById(R.id.forth);

first.setOnClickListener(V -> {

Toast.makeText(this, "first Image clicked \n" + "image id:" + first.getId(), Toast.LENGTH\_SHORT).show();

});

second.setOnClickListener(V -> {

Toast.makeText(this, "second Image clicked \n" + "image id:" + second.getId(), Toast.LENGTH\_SHORT).show();

});

third.setOnClickListener(V -> {

Toast.makeText(this, "third Image clicked \n" + "image id:" + third.getId(), Toast.LENGTH\_SHORT).show();

});

forth.setOnClickListener(V -> {

Toast.makeText(this, "fourth Image clicked \n" + "image id:" + forth.getId(),

Toast.LENGTH\_SHORT).show();

});

}

}

**LAB\_J5**

**Manifest.xml**

**activity\_main.xml**

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

<LinearLayout 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"

android:gravity="center"

android:id="@+id/ll"

tools:context=".MainActivity">

<Spinner

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:padding="11dp"

android:id="@+id/spinner"/>

</LinearLayout>

**MainActivity.java**

package com.subhdroid.lab\_j5;

//5. Design an android application by using Spinner component to display secondary colors names.

// As per user selected a color from Spinner component, change the activity background color.

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

import android.view.View;

import android.widget.AdapterView;

import android.widget.ArrayAdapter;

import android.widget.LinearLayout;

import android.widget.Spinner;

public class MainActivity extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

Spinner spinner = findViewById(R.id.spinner);

LinearLayout ll = findViewById(R.id.ll);

String color[] = {"Purple", "Teal", "Black", "White"};

ArrayAdapter adapter = new ArrayAdapter(this,

android.R.layout.simple\_spinner\_item, color);

adapter.setDropDownViewResource(android.R.layout.simple\_spinner\_dropdown\_item);

spinner.setAdapter(adapter);

spinner.setOnItemSelectedListener(new AdapterView.OnItemSelectedListener() {

@Override

public void onItemSelected(AdapterView<?> adapterView, View view, int i, long l) {

int id = view.getId();

if (color[i] == "Purple") {

ll.setBackgroundColor(getResources().getColor(R.color.purple\_200));

}

if (color[i] == "Teal") {

ll.setBackgroundColor(getResources().getColor(R.color.teal\_200));

}

if (color[i] == "Black") {

ll.setBackgroundColor(getResources().getColor(R.color.black));

}

if (color[i] == "White") {

ll.setBackgroundColor(getResources().getColor(R.color.white));

}

}

@Override

public void onNothingSelected(AdapterView<?> adapterView) {

}

});

}

}

**LAB\_J6**

**Manifest.xml**

<uses-permission android:name="android.permission.CALL\_PHONE" />

**activity\_main.xml**

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

<LinearLayout 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"

android:gravity="center"

android:orientation="vertical"

tools:context=".MainActivity">

<EditText

android:id="@+id/mobNo"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:hint="Enter mobile no"

android:inputType="number"

android:maxEms="10"

android:padding="11dp" />

<androidx.appcompat.widget.AppCompatButton

android:id="@+id/callBtn"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Call" />

</LinearLayout>

**MainActivity.java**

package com.subhdroid.lab\_j6;

//6. Write an android code to make phone call using Intent

import androidx.appcompat.app.AppCompatActivity;

import androidx.appcompat.widget.AppCompatButton;

import android.content.Intent;

import android.net.Uri;

import android.os.Bundle;

import android.widget.EditText;

public class MainActivity extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

EditText mobNo = findViewById(R.id.mobNo);

AppCompatButton callBtn = findViewById(R.id.callBtn);

callBtn.setOnClickListener(view -> {

Intent intent = new Intent(Intent.ACTION\_CALL);

intent.setData(Uri.parse("tel:" + mobNo.getText().toString()));

startActivity(intent);

});

}

}

**LAB\_J7**

**Manifest.xml**

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

<uses-permission android:name="android.permission.BLUETOOTH\_ADMIN"/>

<uses-permission android:name="android.permission.BLUETOOTH\_CONNECT" />

**activity\_main.xml**

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

<LinearLayout 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"

android:gravity="center"

android:orientation="vertical"

tools:context=".MainActivity">

<androidx.appcompat.widget.AppCompatButton

android:id="@+id/onBtn"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Turn On Bluetooth" />

<androidx.appcompat.widget.AppCompatButton

android:id="@+id/offBtn"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Turn Off Bluetooth" />

</LinearLayout>

**MainActivity.java**

package com.subhdroid.lab\_j7;

//7. Write an android code to turn ON/OFF Bluetooth

import androidx.appcompat.app.AppCompatActivity;

import androidx.appcompat.widget.AppCompatButton;

import androidx.core.app.ActivityCompat;

import android.Manifest;

import android.bluetooth.BluetoothAdapter;

import android.content.pm.PackageManager;

import android.os.Bundle;

public class MainActivity extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

AppCompatButton onBtn, offBtn;

onBtn = findViewById(R.id.onBtn);

offBtn = findViewById(R.id.offBtn);

final BluetoothAdapter bluetAdapter = BluetoothAdapter.getDefaultAdapter();

onBtn.setOnClickListener(view -> {

if (!bluetAdapter.isEnabled()) {

if (ActivityCompat.checkSelfPermission(MainActivity.this,

Manifest.permission.BLUETOOTH\_CONNECT) != PackageManager.PERMISSION\_GRANTED) {

bluetAdapter.enable();

}

}

});

offBtn.setOnClickListener(view -> {

if (bluetAdapter.isEnabled()) {

if (ActivityCompat.checkSelfPermission(MainActivity.this,

Manifest.permission.BLUETOOTH\_CONNECT) != PackageManager.PERMISSION\_GRANTED) {

bluetAdapter.disable();

}

}

});

}

}

**LAB\_J8**

**Manifest.xml**

<uses-permission android:name="android.permission.ACCESS\_WIFI\_STATE"/>

<uses-permission android:name="android.permission.CHANGE\_WIFI\_STATE"/>

**activity\_main.xml**

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

<LinearLayout 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"

android:gravity="center"

android:orientation="vertical"

tools:context=".MainActivity">

<androidx.appcompat.widget.AppCompatButton

android:id="@+id/onBtn"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Turn On Wi-Fi" />

<androidx.appcompat.widget.AppCompatButton

android:id="@+id/offBtn"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Turn Off Wi-Fi" />

</LinearLayout>

**MainActivity.java**

package com.subhdroid.lab\_j8;

//8. Write an android code to turn ON /OFF the Wi-Fi

import androidx.appcompat.app.AppCompatActivity;

import androidx.appcompat.widget.AppCompatButton;

import android.content.Context;

import android.net.wifi.WifiManager;

import android.os.Bundle;

public class MainActivity extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

AppCompatButton onBtn, offBtn;

onBtn = findViewById(R.id.onBtn);

offBtn = findViewById(R.id.offBtn);

WifiManager wifiManager =

(WifiManager) getApplicationContext().getSystemService(Context.WIFI\_SERVICE);

onBtn.setOnClickListener(view -> {

if (!wifiManager.isWifiEnabled()) {

wifiManager.setWifiEnabled(true);

}

});

offBtn.setOnClickListener(view -> {

if (wifiManager.isWifiEnabled()) {

wifiManager.setWifiEnabled(false);

}

});

}

}

**LAB\_J9**

**Manifest.xml**

**activity\_main.xml**

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

<TableLayout 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"

android:gravity="center"

tools:context=".MainActivity">

<TableRow>

<TextView

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_column="1"

android:text="Username : "

android:textSize="18sp" />

<EditText

android:id="@+id/username"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_column="2"

android:hint="Enter username"

android:inputType="text" />

</TableRow>

<TableRow>

<TextView

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_column="1"

android:text="Password : "

android:textSize="18sp" />

<EditText

android:id="@+id/password"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_column="2"

android:hint="Enter password"

android:inputType="textPassword" />

</TableRow>

<TableRow>

<androidx.appcompat.widget.AppCompatButton

android:id="@+id/loginBtn"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_column="2"

android:text="Login" />

</TableRow>

</TableLayout>

**MainActivity.java**

package com.subhdroid.lab\_j9;

//9. Design android application for login activity by using TableLayout. Write android code to

// check login credentials with username = "mca" and password = "android". Display appropriate

// toast message to the user

import androidx.appcompat.app.AppCompatActivity;

import androidx.appcompat.widget.AppCompatButton;

import android.os.Bundle;

import android.widget.EditText;

import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

EditText username, password;

AppCompatButton loginBtn;

username = findViewById(R.id.username);

password = findViewById(R.id.password);

loginBtn = findViewById(R.id.loginBtn);

loginBtn.setOnClickListener(view -> {

if (username.getText().toString().equals("mca") && password.getText().toString().equals("android")) {

Toast.makeText(MainActivity.this, "Login Successfully", Toast.LENGTH\_SHORT).show();

} else {

Toast.makeText(MainActivity.this, "Login failed", Toast.LENGTH\_SHORT).show();

}

});

}

}

**LAB\_J10**

**Manifest.xml**

**activity\_main.xml**

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

<LinearLayout 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"

android:orientation="vertical"

android:weightSum="10">

<FrameLayout

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:id="@+id/containerFrame"

android:layout\_weight="0.7"/>

<LinearLayout

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:gravity="bottom"

android:layout\_weight="9.3">

<ImageButton

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:src="@drawable/ic\_baseline\_home\_24"

android:layout\_weight="1"

android:id="@+id/homeBtn"/>

<ImageButton

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:src="@drawable/ic\_baseline\_ondemand\_video\_24"

android:layout\_weight="1"

android:id="@+id/reelsBtn"/>

<ImageButton

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:src="@drawable/ic\_baseline\_notifications\_24"

android:layout\_weight="1"

android:id="@+id/notificationBtn"/>

<ImageButton

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:src="@drawable/ic\_baseline\_person\_24"

android:layout\_weight="1"

android:id="@+id/profileBtn"/>

</LinearLayout>

</LinearLayout>

**home\_fragment.xml**

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

<LinearLayout

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=".HomeFragment"

android:background="#9CCC65">

<TextView

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:text="Home Page"

android:gravity="center"

android:textStyle="bold"

android:textSize="25sp"/>

</LinearLayout>

**profile\_fragment.xml**

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

<LinearLayout 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=".ProfileFragment"

android:background="#FF7043">

<TextView

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:text="Profile Page"

android:textSize="25sp"

android:textStyle="bold"

android:gravity="center"/>

</LinearLayout>

**reels\_fragment.xml**

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

<LinearLayout

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=".ReelsFragment"

android:background="#29B6F6">

<TextView

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:text="Reels Page"

android:textStyle="bold"

android:textSize="25sp"

android:gravity="center"/>

</LinearLayout>

**notification\_fragment.xml**

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

<LinearLayout 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=".NotificationsFragment"

android:background="#FFEE58">

<TextView

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:text="Notification Page"

android:gravity="center"

android:textStyle="bold"

android:textSize="25sp"/>

</LinearLayout>

**MainActivity.java**

package com.subhdroid.LAB\_J10;

//10. Create a fragment that has its own UI and enable your activities to communicate with

// fragments.

import androidx.appcompat.app.AppCompatActivity;

import androidx.fragment.app.Fragment;

import androidx.fragment.app.FragmentManager;

import androidx.fragment.app.FragmentTransaction;

import android.os.Bundle;

import android.widget.ImageButton;

public class MainActivity extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

ImageButton homeBtn, reelsBtn, notificationBtn, profileBtn;

homeBtn = findViewById(R.id.homeBtn);

reelsBtn = findViewById(R.id.reelsBtn);

notificationBtn = findViewById(R.id.notificationBtn);

profileBtn = findViewById(R.id.profileBtn);

loadFragment(new NotificationsFragment(), 0);

homeBtn.setOnClickListener(view -> loadFragment(new HomeFragment(), 1));

reelsBtn.setOnClickListener(view -> loadFragment(new ReelsFragment(), 1));

notificationBtn.setOnClickListener(view -> loadFragment(new NotificationsFragment(), 1));

profileBtn.setOnClickListener(view -> loadFragment(new ProfileFragment(), 1));

}

public void loadFragment(Fragment fragment, int flag) {

FragmentManager fm = getSupportFragmentManager();

FragmentTransaction ft = fm.beginTransaction();

if (flag == 0)

ft.add(R.id.containerFrame, fragment);

else

ft.replace(R.id.containerFrame, fragment);

ft.commit();

}

}

**HomeFragment.java**

package com.subhdroid.LAB\_J10;

import android.os.Bundle;

import androidx.fragment.app.Fragment;

import android.view.LayoutInflater;

import android.view.View;

import android.view.ViewGroup;

public class HomeFragment extends Fragment {

@Override

public View onCreateView(LayoutInflater inflater, ViewGroup container,

Bundle savedInstanceState) {

// Inflate the layout for this fragment

return inflater.inflate(R.layout.fragment\_home, container, false);

}

}

**ProfileFragment.java**

package com.subhdroid.LAB\_J10;

import android.os.Bundle;

import androidx.fragment.app.Fragment;

import android.view.LayoutInflater;

import android.view.View;

import android.view.ViewGroup;

public class ProfileFragment extends Fragment {

@Override

public View onCreateView(LayoutInflater inflater, ViewGroup container,

Bundle savedInstanceState) {

// Inflate the layout for this fragment

return inflater.inflate(R.layout.fragment\_profile, container, false);

}

}

**ReelsFragment.java**

package com.subhdroid.LAB\_J10;

import android.os.Bundle;

import androidx.fragment.app.Fragment;

import android.view.LayoutInflater;

import android.view.View;

import android.view.ViewGroup;

public class ReelsFragment extends Fragment {

@Override

public View onCreateView(LayoutInflater inflater, ViewGroup container,

Bundle savedInstanceState) {

// Inflate the layout for this fragment

return inflater.inflate(R.layout.fragment\_reels, container, false);

}

}

**NotificationFragment.java**

package com.subhdroid.LAB\_J10;

import android.os.Bundle;

import androidx.fragment.app.Fragment;

import android.view.LayoutInflater;

import android.view.View;

import android.view.ViewGroup;

public class NotificationsFragment extends Fragment {

@Override

public View onCreateView(LayoutInflater inflater, ViewGroup container,

Bundle savedInstanceState) {

// Inflate the layout for this fragment

return inflater.inflate(R.layout.fragment\_notifications, container, false);

}

}

**LAB\_J11**

**Manifest.xml**

**activity\_main.xml**

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

<LinearLayout 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"

android:orientation="vertical"

android:gravity="center"

tools:context=".MainActivity">

<ListView

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:id="@+id/lstView"/>

</LinearLayout>

**MainActivity.java**

package com.subhdroid.lab\_j11;

//11. Demonstrate Array Adapter using List View to display list of fruits.

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

import android.widget.ArrayAdapter;

import android.widget.ListView;

public class MainActivity extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

ListView lstView = findViewById(R.id.lstView);

String fruits[] = {"Apple","Banana","Orange","Mango","Dragan"};

ArrayAdapter adapter = new ArrayAdapter(MainActivity.this,

android.R.layout.simple\_list\_item\_1,fruits);

lstView.setAdapter(adapter);

}

}

**LAB\_J12**

**Manifest.xml**

**activity\_main.xml**

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

<LinearLayout 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"

android:gravity="center"

android:orientation="vertical"

tools:context=".MainActivity">

<TextView

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Alert Dialog Box" />

</LinearLayout>

**MainActivity.java**

package com.subhdroid.lab\_j12;

//12. Write an application to demonstrate Alert Dialog Box in android

import androidx.appcompat.app.AlertDialog;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

public class MainActivity extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

}

@Override

public void onBackPressed() {

AlertDialog.Builder alertBox = new AlertDialog.Builder(MainActivity.this);

alertBox.setTitle("Exit");

alertBox.setMessage("Are you sure want to exit?");

alertBox.setPositiveButton("Yes", (dialogInterface, i) -> finishAffinity());

alertBox.setNegativeButton("No", (dialogInterface, i) -> dialogInterface.dismiss());

alertBox.show();

}

}

**LAB\_J13**

**Manifest.xml**

**activity\_main.xml**

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

<LinearLayout 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/ll"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:gravity="center"

android:orientation="vertical"

tools:context=".MainActivity">

<TextView

android:id="@+id/contextMenuTxt"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Context Menu(Long press me)" />

<androidx.appcompat.widget.AppCompatButton

android:id="@+id/popupMenuBtn"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginTop="21dp"

android:text="Popup Menu" />

</LinearLayout>

**menu.xml**

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

<menu xmlns:android="http://schemas.android.com/apk/res/android">

<item

android:id="@+id/save"

android:title="Save" />

<item

android:id="@+id/open"

android:title="Open" />

<item

android:id="@+id/close"

android:title="Close" />

<item

android:id="@+id/exit"

android:title="Exit" />

</menu>

**MainActivity.java**

package com.subhdroid.lab\_j13;

//13. Demonstrate Options Menu, Context Menu and Popup Menu in android

import androidx.annotation.NonNull;

import androidx.appcompat.app.AppCompatActivity;

import androidx.appcompat.widget.AppCompatButton;

import androidx.appcompat.widget.PopupMenu;

import android.graphics.Color;

import android.os.Bundle;

import android.view.ContextMenu;

import android.view.Menu;

import android.view.MenuInflater;

import android.view.MenuItem;

import android.view.View;

import android.widget.LinearLayout;

import android.widget.TextView;

import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

LinearLayout ll;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

AppCompatButton popupMenuBtn = findViewById(R.id.popupMenuBtn);

TextView contextMenuTxt = findViewById(R.id.contextMenuTxt);

ll = findViewById(R.id.ll);

registerForContextMenu(contextMenuTxt);

popupMenuBtn.setOnClickListener(view -> {

PopupMenu popupMenu = new PopupMenu(MainActivity.this, popupMenuBtn);

popupMenu.getMenuInflater().inflate(R.menu.menus\_items, popupMenu.getMenu());

popupMenu.setOnMenuItemClickListener(item -> {

Toast.makeText(MainActivity.this, item.getTitle() + " clicked",

Toast.LENGTH\_SHORT).show();

return true;

});

popupMenu.show();

});

}

@Override

public boolean onCreateOptionsMenu(Menu menu) {

MenuInflater inflater = getMenuInflater();

inflater.inflate(R.menu.menus\_items, menu);

return true;

}

@Override

public boolean onOptionsItemSelected(@NonNull MenuItem item) {

if (item.getItemId() == R.id.close) {

Toast.makeText(this, "Close clicked", Toast.LENGTH\_SHORT).show();

}

if (item.getItemId() == R.id.save) {

Toast.makeText(this, "Save clicked", Toast.LENGTH\_SHORT).show();

}

if (item.getItemId() == R.id.open) {

Toast.makeText(this, "Open clicked", Toast.LENGTH\_SHORT).show();

}

return true;

}

@Override

public void onCreateContextMenu(ContextMenu menu, View v, ContextMenu.ContextMenuInfo menuInfo) {

super.onCreateContextMenu(menu, v, menuInfo);

menu.setHeaderTitle("Set Background color");

menu.add(0, v.getId(), 0, "Grey");

menu.add(0, v.getId(), 0, "Yellow");

menu.add(0, v.getId(), 0, "Red");

}

@Override

public boolean onContextItemSelected(@NonNull MenuItem item) {

if (item.getTitle().equals("Grey")) {

ll.setBackgroundColor(Color.GRAY);

}

if (item.getTitle().equals("Yellow")) {

ll.setBackgroundColor(Color.YELLOW);

}

if (item.getTitle().equals("Red")) {

ll.setBackgroundColor(Color.RED);

}

return true;

}

}

**LAB\_J14**

**Manifest.xml**

**activity\_main.xml**

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

<LinearLayout 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"

android:gravity="center"

tools:context=".MainActivity">

<androidx.appcompat.widget.AppCompatButton

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Notify me"

android:id="@+id/btn"/>

</LinearLayout>

**activity\_new.xml**

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

<LinearLayout 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"

android:gravity="center"

tools:context=".NewActivity">

<TextView

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="New Activity" />

</LinearLayout>

**MainActivity.java**

package com.subhdroid.lab\_j14;

//14. Write an application to produce Notification

import androidx.appcompat.app.AppCompatActivity;

import androidx.core.app.NotificationCompat;

import android.app.NotificationChannel;

import android.app.NotificationManager;

import android.app.PendingIntent;

import android.content.Intent;

import android.os.Build;

import android.os.Bundle;

public class MainActivity extends AppCompatActivity {

private static final String CHANNEL\_ID = "Notification Channel";

private static final int REQ\_CODE = 100;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

findViewById(R.id.btn).setOnClickListener(view -> {

NotificationManager nm = (NotificationManager) getSystemService(NOTIFICATION\_SERVICE);

NotificationCompat.Builder nb = new NotificationCompat.Builder(this, CHANNEL\_ID);

Intent intent = new Intent(MainActivity.this, NewActivity.class);

PendingIntent pendingIntent = PendingIntent.getActivity(this, REQ\_CODE, intent,

PendingIntent.FLAG\_UPDATE\_CURRENT);

if (Build.VERSION.SDK\_INT >= Build.VERSION\_CODES.O) {

nb.setSmallIcon(R.drawable.ic\_launcher\_background)

.setContentTitle("New Message Title")

.setContentText("Context text")

.setSubText("Subtext")

.setContentIntent(pendingIntent)

.setChannelId(CHANNEL\_ID)

.build();

nm.createNotificationChannel((new NotificationChannel(CHANNEL\_ID, "Channel One",

NotificationManager.IMPORTANCE\_HIGH)));

} else {

nb.setSmallIcon(R.drawable.ic\_launcher\_background)

.setContentTitle("New Message Title")

.setContentText("Context text")

.setSubText("Subtext")

.setContentIntent(pendingIntent)

.setChannelId(CHANNEL\_ID)

.build();

}

nm.notify(1, nb.build());

});

}

}

**NewActivity.java**

package com.subhdroid.lab\_j14;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

public class NewActivity extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_new);

}

}

**LAB\_J15**

**Manifest.xml**

**activity\_main.xml**

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

<LinearLayout 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"

android:gravity="center"

android:orientation="vertical"

tools:context=".MainActivity">

<EditText

android:id="@+id/name"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginTop="11dp"

android:hint="Course name"

android:inputType="text" />

<EditText

android:id="@+id/duration"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginTop="11dp"

android:hint="Duration (in year)"

android:inputType="number" />

<EditText

android:id="@+id/description"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginTop="11dp"

android:hint="Description" />

<androidx.appcompat.widget.AppCompatButton

android:id="@+id/addBtn"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Add Course" />

<LinearLayout

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:gravity="center"

android:orientation="horizontal">

<androidx.appcompat.widget.AppCompatButton

android:id="@+id/updateBtn"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Update" />

<androidx.appcompat.widget.AppCompatButton

android:id="@+id/deleteBtn"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Delete" />

<androidx.appcompat.widget.AppCompatButton

android:id="@+id/displayBtn"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Display" />

</LinearLayout>

<TextView

android:id="@+id/txtView"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content" />

</LinearLayout>

**MainActivity.java**

package com.subhdroid.lab\_j15;

//15. Write an android application using SQLite to create table and perform CRUD operations

// (Example. COURSE table (ID, Name, Duration, Description), perform ADD, UPDATE,

// DELETE and READ operations)

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

import android.view.View;

import android.widget.EditText;

import android.widget.TextView;

import java.util.ArrayList;

public class MainActivity extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

MyDBClass mydb = new MyDBClass(this);

EditText name, duration, description;

TextView txt = findViewById(R.id.txtView);

name = findViewById(R.id.name);

duration = findViewById(R.id.duration);

description = findViewById(R.id.description);

findViewById(R.id.addBtn).setOnClickListener(view -> mydb.addRecord(name.getText().toString(), duration.getText().toString(),

description.getText().toString()));

findViewById(R.id.updateBtn).setOnClickListener(view -> mydb.updateRecord(duration.getText().toString(),

name.getText().toString()));

findViewById(R.id.deleteBtn).setOnClickListener(view -> mydb.deleteRecord(name.getText().toString()));

findViewById(R.id.displayBtn).setOnClickListener(view -> {

ArrayList<CourseModel> list = mydb.getRecords();

String str = "ID Name Duration Description";

for (int i = 0; i < list.size(); i++) {

str += "\n" + list.get(i).id + " " + list.get(i).name + " " + list.get(i).duration + " " + list.get(i).description;

}

txt.setText(str);

});

}

}

**CourseModel.java**

package com.subhdroid.lab\_j15;

public class CourseModel {

String name, duration, description;

int id;

public CourseModel() {

}

}

**MyDBClass.java**

package com.subhdroid.lab\_j15;

import android.content.ContentValues;

import android.content.Context;

import android.database.Cursor;

import android.database.sqlite.SQLiteDatabase;

import android.database.sqlite.SQLiteOpenHelper;

import android.widget.Toast;

import androidx.annotation.Nullable;

import java.util.ArrayList;

public class MyDBClass extends SQLiteOpenHelper {

private static final String DBName = "LabDB";

private static final int DB\_VERSION = 1;

Context context;

public MyDBClass(@Nullable Context context) {

super(context, DBName, null, DB\_VERSION);

this.context = context;

}

@Override

public void onCreate(SQLiteDatabase sqLiteDatabase) {

sqLiteDatabase.execSQL("CREATE TABLE course(id INTEGER PRIMARY KEY AUTOINCREMENT,name " +

"TEXT,duration TEXT,description TEXT)");

}

@Override

public void onUpgrade(SQLiteDatabase sqLiteDatabase, int i, int i1) {

}

public void addRecord(String name, String duration, String description) {

SQLiteDatabase database = this.getWritableDatabase();

ContentValues values = new ContentValues();

values.put("name", name);

values.put("duration", duration);

values.put("description", description);

database.insert("course", null, values);

Toast.makeText(context, "Added successfully", Toast.LENGTH\_SHORT).show();

// database.close();

}

public ArrayList<CourseModel> getRecords() {

SQLiteDatabase db = this.getReadableDatabase();

Cursor cursor = db.rawQuery("SELECT \* FROM course", null);

ArrayList<CourseModel> recordList = new ArrayList<>();

while (cursor.moveToNext()) {

CourseModel model = new CourseModel();

model.id = cursor.getInt(0);

model.name = cursor.getString(1);

model.duration = cursor.getString(2);

model.description = cursor.getString(3);

recordList.add(model);

}

return recordList;

}

public void updateRecord(String duration, String name) {

SQLiteDatabase db = this.getWritableDatabase();

ContentValues cv = new ContentValues();

cv.put("duration", duration);

db.update("course", cv, "name=?", new String[]{name});

Toast.makeText(context, "Updated successfully", Toast.LENGTH\_SHORT).show();

}

public void deleteRecord(String courseName) {

SQLiteDatabase database = this.getWritableDatabase();

database.delete("course", "name=?", new String[]{courseName});

Toast.makeText(context, "Deleted successfully", Toast.LENGTH\_SHORT).show();

}

}

**LAB\_J16**

**Manifest.xml**

**activity\_main.xml**

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

<LinearLayout 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"

android:gravity="center"

android:orientation="vertical"

tools:context=".MainActivity">

<EditText

android:id="@+id/name"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginTop="11dp"

android:hint="Course name"

android:inputType="text" />

<EditText

android:id="@+id/duration"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginTop="11dp"

android:hint="Duration (in year)"

android:inputType="number" />

<EditText

android:id="@+id/description"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginTop="11dp"

android:hint="Description" />

<androidx.appcompat.widget.AppCompatButton

android:id="@+id/addBtn"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Add Course" />

<LinearLayout

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:gravity="center"

android:orientation="horizontal">

<androidx.appcompat.widget.AppCompatButton

android:id="@+id/updateBtn"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Update" />

<androidx.appcompat.widget.AppCompatButton

android:id="@+id/deleteBtn"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Delete" />

<androidx.appcompat.widget.AppCompatButton

android:id="@+id/displayBtn"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Display" />

</LinearLayout>

<TextView

android:id="@+id/txtView"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content" />

</LinearLayout>

**MainActivity.java**

package com.subhdroid.lab\_j16;

import androidx.annotation.NonNull;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

import android.os.Handler;

import android.util.Log;

import android.widget.EditText;

import android.widget.TextView;

import android.widget.Toast;

import com.google.firebase.database.DataSnapshot;

import com.google.firebase.database.DatabaseError;

import com.google.firebase.database.DatabaseReference;

import com.google.firebase.database.FirebaseDatabase;

import com.google.firebase.database.ValueEventListener;

import java.sql.Array;

import java.util.HashMap;

public class MainActivity extends AppCompatActivity {

DatabaseReference courseRef = FirebaseDatabase.getInstance().getReference("course");

EditText name, duration, description;

TextView txt;

String record = "";

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

txt = findViewById(R.id.txtView);

name = findViewById(R.id.name);

duration = findViewById(R.id.duration);

description = findViewById(R.id.description);

findViewById(R.id.addBtn).setOnClickListener(view -> addRecord());

findViewById(R.id.updateBtn).setOnClickListener(view -> updateRecord());

findViewById(R.id.deleteBtn).setOnClickListener(view -> deleteRecord());

findViewById(R.id.displayBtn).setOnClickListener(view -> {

getAllCourse();

Handler handler = new Handler();

handler.postDelayed(new Runnable() {

@Override

public void run() {

txt.setText(record);

}

}, 3000);

});

}

private void addRecord() {

CourseModel courseModel = new CourseModel(name.getText().toString(),

duration.getText().toString(),

description.getText().toString());

String courseID = courseRef.push().getKey();

courseRef.child(courseID).setValue(courseModel);

Toast.makeText(this, "Course added", Toast.LENGTH\_SHORT).show();

}

private void deleteRecord() {

courseRef.addValueEventListener(new ValueEventListener() {

@Override

public void onDataChange(@NonNull DataSnapshot dataSnapshot) {

HashMap<String, Array> dataMap = (HashMap<String, Array>) dataSnapshot.getValue();

for (String key : dataMap.keySet()) {

courseRef.child(key).addValueEventListener(new ValueEventListener() {

@Override

public void onDataChange(@NonNull DataSnapshot snapshot) {

CourseModel course = snapshot.getValue(CourseModel.class);

if (name.getText().toString().equals(course.getName())) {

snapshot.getRef().removeValue();

Toast.makeText(MainActivity.this, "Record deleted",

Toast.LENGTH\_SHORT).show();

}

}

@Override

public void onCancelled(@NonNull DatabaseError error) {

Log.d("DB Error : ", error.toString());

}

});

}

}

@Override

public void onCancelled(@NonNull DatabaseError error) {

Toast.makeText(getApplicationContext(), "Fail to get data.", Toast.LENGTH\_SHORT).show();

}

});

}

private void updateRecord() {

courseRef.addValueEventListener(new ValueEventListener() {

@Override

public void onDataChange(@NonNull DataSnapshot dataSnapshot) {

HashMap<String, Array> dataMap = (HashMap<String, Array>) dataSnapshot.getValue();

for (String key : dataMap.keySet()) {

courseRef.child(key).addValueEventListener(new ValueEventListener() {

@Override

public void onDataChange(@NonNull DataSnapshot snapshot) {

CourseModel course = snapshot.getValue(CourseModel.class);

if (name.getText().toString().equals(course.getName())) {

courseRef.child(key).child("duration").setValue(duration.getText().toString());

Toast.makeText(MainActivity.this, "Record Updated",

Toast.LENGTH\_SHORT).show();

}

}

@Override

public void onCancelled(@NonNull DatabaseError error) {

Log.d("DB Error : ", error.toString());

}

});

}

}

@Override

public void onCancelled(@NonNull DatabaseError error) {

Toast.makeText(getApplicationContext(), "Fail to get data.", Toast.LENGTH\_SHORT).show();

}

});

}

private void getAllCourse() {

courseRef.addValueEventListener(new ValueEventListener() {

@Override

public void onDataChange(@NonNull DataSnapshot dataSnapshot) {

HashMap<String, Array> dataMap = (HashMap<String, Array>) dataSnapshot.getValue();

record = "";

for (String key : dataMap.keySet()) {

courseRef.child(key).addValueEventListener(new ValueEventListener() {

@Override

public void onDataChange(@NonNull DataSnapshot snapshot) {

CourseModel course = snapshot.getValue(CourseModel.class);

String str = "\n" + course.getName() + " " + course.getDuration() +

" " + course.getDescription();

record += str;

}

@Override

public void onCancelled(@NonNull DatabaseError error) {

Log.d("DB Error : ", error.toString());

}

});

}

}

@Override

public void onCancelled(@NonNull DatabaseError error) {

Toast.makeText(getApplicationContext(), "Fail to get data.", Toast.LENGTH\_SHORT).show();

}

});

}

}

**CourseModel.java**

package com.subhdroid.lab\_j16;

public class CourseModel {

String name, duration, description;

CourseModel(String name, String duration, String description) {

this.name = name;

this.duration = duration;

this.description = description;

}

public CourseModel() {

}

public String getName() {

return name;

}

public void setName(String name) {

this.name = name;

}

public String getDuration() {

return duration;

}

public void setDuration(String duration) {

this.duration = duration;

}

public String getDescription() {

return description;

}

public void setDescription(String description) {

this.description = description;

}

}

**LAB\_J17**

**Manifest.xml**

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

**activity\_main.xml**

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

<LinearLayout 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"

android:gravity="center"

android:orientation="vertical"

tools:context=".MainActivity">

<WebView

android:id="@+id/webView"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content" />

<androidx.appcompat.widget.AppCompatButton

android:id="@+id/btn"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Go to Google" />

<ProgressBar

android:id="@+id/pgBar"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:visibility="gone" />

</LinearLayout>

**MainActivity.java**

package com.subhdroid.lab\_j17;

//17. Demonstrate WebView to display the web pages in an android application.

import androidx.appcompat.app.AppCompatActivity;

import androidx.appcompat.widget.AppCompatButton;

import android.graphics.Bitmap;

import android.os.Bundle;

import android.view.View;

import android.webkit.WebView;

import android.webkit.WebViewClient;

import android.widget.ProgressBar;

public class MainActivity extends AppCompatActivity {

WebView webView;

ProgressBar pgBar;

AppCompatButton btn;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

webView = findViewById(R.id.webView);

pgBar = findViewById(R.id.pgBar);

btn = findViewById(R.id.btn);

btn.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View view) {

webView.loadUrl("https://www.google.com");

pgBar.setVisibility(View.VISIBLE);

webView.setWebViewClient(new WebViewClient() {

@Override

public void onPageStarted(WebView view, String url, Bitmap favicon) {

super.onPageStarted(view, url, favicon);

}

@Override

public void onPageFinished(WebView view, String url) {

pgBar.setVisibility(View.GONE);

btn.setVisibility(View.GONE);

super.onPageFinished(view, url);

}

});

}

});

}

@Override

public void onBackPressed() {

if (webView.canGoBack()) {

webView.goBack();

} else {

super.onBackPressed();

}

}

}

**LAB\_J18**

**Manifest.xml**

**activity\_main.xml**

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

<LinearLayout 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"

android:gravity="center"

android:orientation="vertical"

tools:context=".MainActivity">

<EditText

android:id="@+id/name"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:hint="Enter name" />

<EditText

android:id="@+id/mobile"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:hint="Enter phone no" />

<androidx.appcompat.widget.AppCompatButton

android:id="@+id/setDataBtn"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Set Data" />

<androidx.appcompat.widget.AppCompatButton

android:id="@+id/getDataBtn"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Get Data" />

<TextView

android:id="@+id/data"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content" />

</LinearLayout>

**MainActivity.java**

package com.subhdroid.lab\_j18;

//18. Write an android app to write JSON data into a file and read JSON data from created file.

import androidx.appcompat.app.AppCompatActivity;

import androidx.appcompat.widget.AppCompatButton;

import android.os.Bundle;

import android.widget.EditText;

import android.widget.TextView;

import android.widget.Toast;

import org.json.JSONException;

import org.json.JSONObject;

import java.io.BufferedReader;

import java.io.BufferedWriter;

import java.io.File;

import java.io.FileReader;

import java.io.FileWriter;

import java.io.IOException;

public class MainActivity extends AppCompatActivity {

AppCompatButton setDataBtn, getDataBtn;

EditText name, mobile;

TextView data;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

name = findViewById(R.id.name);

mobile = findViewById(R.id.mobile);

data = findViewById(R.id.data);

setDataBtn = findViewById(R.id.setDataBtn);

getDataBtn = findViewById(R.id.getDataBtn);

setDataBtn.setOnClickListener(view -> setData());

getDataBtn.setOnClickListener(view -> getData());

}

private void setData() {

JSONObject jsonObject = new JSONObject();

try {

jsonObject.put("Name", name.getText().toString());

jsonObject.put("Phone", mobile.getText().toString());

} catch (JSONException e) {

e.printStackTrace();

}

String userString = jsonObject.toString();

try {

File file = new File(getApplicationContext().getFilesDir(), "LAB\_J18.json");

FileWriter fileWriter = new FileWriter(file);

BufferedWriter bufferedWriter = new BufferedWriter(fileWriter);

bufferedWriter.write(userString);

bufferedWriter.close();

} catch (IOException e) {

e.printStackTrace();

}

Toast.makeText(this, "Data Set", Toast.LENGTH\_SHORT).show();

}

private void getData() {

try {

File file = new File(getApplicationContext().getFilesDir(), "LAB\_J18.json");

FileReader fileReader = new FileReader(file);

BufferedReader bufferedReader = new BufferedReader(fileReader);

StringBuilder stringBuilder = new StringBuilder();

String line = bufferedReader.readLine();

while (line != null) {

stringBuilder.append(line).append("\n");

line = bufferedReader.readLine();

}

bufferedReader.close();

String response = stringBuilder.toString();

JSONObject jsonObject = new JSONObject(response);

String rec = "Name : " + jsonObject.get("Name");

rec += "\nPhone : " + jsonObject.get("Phone");

data.setText(rec);

} catch (IOException e) {

e.printStackTrace();

} catch (JSONException e) {

e.printStackTrace();

}

}

}