Slip1

Q.1) Write an application to create a splash screen.

Sol

<!-- activity\_splash.xml -->

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

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:background="@color/colorPrimary">

<!-- You can customize your splash screen layout here -->

<TextView

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Splash Screen"

android:textSize="24sp"

android:textColor="#FFF"

android:layout\_centerInParent="true"/>

</RelativeLayout>

// SplashActivity.java

import android.content.Intent;

import android.os.Bundle;

import android.os.Handler;

import android.support.annotation.Nullable;

import android.support.v7.app.AppCompatActivity;

public class SplashActivity extends AppCompatActivity {

// Splash screen timer

private static int SPLASH\_TIME\_OUT = 2000; // 2 seconds

@Override

protected void onCreate(@Nullable Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_splash);

// Delayed execution for SPLASH\_TIME\_OUT milliseconds and then start the MainActivity

new Handler().postDelayed(new Runnable() {

@Override

public void run() {

// This method will be executed once the timer is over

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

startActivity(intent);

// Close this activity

finish();

}

}, SPLASH\_TIME\_OUT);

}

}

//Manifiest.xml

<activity android:name=".SplashActivity">

<intent-filter>

<action android:name="android.intent.action.MAIN" />

<category android:name="android.intent.category.LAUNCHER" />

</intent-filter>

</activity>

<activity android:name=".MainActivity"></activity>

Q.2) Create table Student (roll\_no, name, address, percentage). Create Application for performing the following operation on the table. (Using SQLite database).

i] Insert record of 5 new student details. ii] Show all the student details.

Sol

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

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

android:layout\_width="match\_parent"

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

<TextView

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_x="50dp"

android:layout\_y="20dp"

android:text="Student Details"

android:textSize="30sp" />

<TextView

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_x="20dp"

android:layout\_y="110dp"

android:text="Enter Rollno:"

android:textSize="20sp" />

<EditText

android:id="@+id/Rollno"

android:layout\_width="150dp"

android:layout\_height="wrap\_content"

android:layout\_x="175dp"

android:layout\_y="100dp"

android:inputType="number"

android:textSize="20sp" />

<TextView

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_x="20dp"

android:layout\_y="160dp"

android:text="Enter Name:"

android:textSize="20sp" />

<EditText

android:id="@+id/Name"

android:layout\_width="150dp"

android:layout\_height="wrap\_content"

android:layout\_x="175dp"

android:layout\_y="150dp"

android:inputType="text"

android:textSize="20sp" />

<TextView

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_x="20dp"

android:layout\_y="210dp"

android:text="Enter Marks:"

android:textSize="20sp" />

<EditText

android:id="@+id/Marks"

android:layout\_width="150dp"

android:layout\_height="wrap\_content"

android:layout\_x="175dp"

android:layout\_y="200dp"

android:inputType="number"

android:textSize="20sp" />

<Button

android:id="@+id/Insert"

android:layout\_width="150dp"

android:layout\_height="wrap\_content"

android:layout\_x="25dp"

android:layout\_y="300dp"

android:text="Insert"

android:textSize="30dp" />

<Button

android:id="@+id/Delete"

android:layout\_width="150dp"

android:layout\_height="wrap\_content"

android:layout\_x="200dp"

android:layout\_y="300dp"

android:text="Delete"

android:textSize="30dp" />

<Button

android:id="@+id/Update"

android:layout\_width="150dp"

android:layout\_height="wrap\_content"

android:layout\_x="25dp"

android:layout\_y="400dp"

android:text="Update"

android:textSize="30dp" />

<Button

android:id="@+id/View"

android:layout\_width="150dp"

android:layout\_height="wrap\_content"

android:layout\_x="200dp"

android:layout\_y="400dp"

android:text="View"

android:textSize="30dp" />

<Button

android:id="@+id/ViewAll"

android:layout\_width="200dp"

android:layout\_height="wrap\_content"

android:layout\_x="100dp"

android:layout\_y="500dp"

android:text="View All"

android:textSize="30dp" />

</AbsoluteLayout>

package com.example.practical13;

import android.app.Activity;

import android.app.AlertDialog.Builder;

import android.content.Context;

import android.database.Cursor;

import android.database.sqlite.SQLiteDatabase;

import android.os.Bundle;

import android.view.View;

import android.view.View.OnClickListener;

import android.widget.Button;

import android.widget.EditText;

public class MainActivity extends Activity implements OnClickListener

{

EditText Rollno,Name,Marks;

Button Insert,Delete,Update,View,ViewAll;

SQLiteDatabase db;

/\*\* Called when the activity is first created. \*/

@Override

public void onCreate(Bundle savedInstanceState)

{

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

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

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

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

Insert=(Button)findViewById(R.id.Insert);

Delete=(Button)findViewById(R.id.Delete);

Update=(Button)findViewById(R.id.Update);

View=(Button)findViewById(R.id.View);

ViewAll=(Button)findViewById(R.id.ViewAll);

Insert.setOnClickListener(this);

Delete.setOnClickListener(this);

Update.setOnClickListener(this);

View.setOnClickListener(this);

ViewAll.setOnClickListener(this);

// Creating database and table

db=openOrCreateDatabase("StudentDB", Context.MODE\_PRIVATE, null);

db.execSQL("CREATE TABLE IF NOT EXISTS student( rollno VARCHAR ,name VARCHAR ,marks VARCHAR);");

}

public void onClick(View view)

{

// Inserting a record to the Student table

if(view==Insert)

{

// Checking for empty fields

if(Rollno.getText().toString().trim().length()==0||

Name.getText().toString().trim().length()==0||

Marks.getText().toString().trim().length()==0)

{

showMessage("Error", "Please enter all values");

return;

}

db.execSQL("INSERT INTO student

VALUES('"+Rollno.getText()+"','"+Name.getText()+

"','"+Marks.getText()+"');");

showMessage("Success", "Record added");

clearText();

}

// Deleting a record from the Student table

if(view==Delete)

{

// Checking for empty roll number

if(Rollno.getText().toString().trim().length()==0)

{

showMessage("Error", "Please enter Rollno");

return;

}

Cursor c=db.rawQuery("SELECT \* FROM student WHERE

rollno='"+Rollno.getText()+"'", null);

if(c.moveToFirst())

{

db.execSQL("DELETE FROM student WHERE

rollno='"+Rollno.getText()+"'");

showMessage("Success", "Record Deleted");

}

else

{

showMessage("Error", "Invalid Rollno");

}

clearText();

}

// Updating a record in the Student table

if(view==Update)

{

// Checking for empty roll number

if(Rollno.getText().toString().trim().length()==0)

{

showMessage("Error", "Please enter Rollno");

return;

}

Cursor c=db.rawQuery("SELECT \* FROM student WHERE

rollno='"+Rollno.getText()+"'", null);

if(c.moveToFirst()) {

db.execSQL("UPDATE student SET name='" + Name.getText() +

"',marks='" + Marks.getText() +

"' WHERE rollno='"+Rollno.getText()+"'");

showMessage("Success", "Record Modified");

}

else {

showMessage("Error", "Invalid Rollno");

}

clearText();

}

// Display a record from the Student table

if(view==View)

{

// Checking for empty roll number

if(Rollno.getText().toString().trim().length()==0)

{

showMessage("Error", "Please enter Rollno");

return;

}

Cursor c=db.rawQuery("SELECT \* FROM student WHERE

rollno='"+Rollno.getText()+"'", null);

if(c.moveToFirst())

{

Name.setText(c.getString(1));

Marks.setText(c.getString(2));

}

else

{

showMessage("Error", "Invalid Rollno");

clearText();

}

}

// Displaying all the records

if(view==ViewAll)

{

Cursor c=db.rawQuery("SELECT \* FROM student", null);

if(c.getCount()==0)

{

showMessage("Error", "No records found");

return;

}

StringBuffer buffer=new StringBuffer();

while(c.moveToNext())

{

buffer.append("Rollno: "+c.getString(0)+"\n");

buffer.append("Name: "+c.getString(1)+"\n");

buffer.append("Marks: "+c.getString(2)+"\n\n");

}

showMessage("Student Details", buffer.toString());

}

}

public void showMessage(String title,String message)

{

Builder builder=new Builder(this);

builder.setCancelable(true);

builder.setTitle(title);

builder.setMessage(message);

builder.show();

}

public void clearText()

{

Rollno.setText("");

Name.setText("");

Marks.setText("");

Rollno.requestFocus();

}

Slip 2

Q.1) Create an application that allows the user to enter a number in the textbox. Check whether the number in the textbox is perfect number or not. Print the message using Toast control.

Sol

<!-- activity\_main.xml -->

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

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

xmlns:tools="http://schemas.android.com/tools"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:padding="16dp"

tools:context=".MainActivity">

<EditText

android:id="@+id/editTextNumber"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:hint="Enter a number"

android:inputType="number" />

<Button

android:id="@+id/buttonCheck"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_below="@id/editTextNumber"

android:layout\_marginTop="16dp"

android:text="Check"

android:onClick="checkPerfectNumber" />

</RelativeLayout>

// MainActivity.java

import android.os.Bundle;

import android.support.v7.app.AppCompatActivity;

import android.view.View;

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);

}

public void checkPerfectNumber(View view) {

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

String input = editTextNumber.getText().toString().trim();

if (input.isEmpty()) {

showToast("Please enter a number");

return;

}

int number = Integer.parseInt(input);

if (isPerfectNumber(number)) {

showToast(number + " is a perfect number");

} else {

showToast(number + " is not a perfect number");

}

}

private boolean isPerfectNumber(int number) {

if (number <= 1) {

return false;

}

int sum = 1; // 1 is always a divisor

for (int i = 2; i \* i <= number; i++) {

if (number % i == 0) {

sum += i;

if (i \* i != number) {

sum += number / i;

}

}

}

return sum == number;

}

private void showToast(String message) {

Toast.makeText(this, message, Toast.LENGTH\_SHORT).show();

}

}

Q.2) Java Android Program to perform all arithmetic Operations using Calculator.

Sol

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:padding="20dp"

android:orientation="vertical">

<TextView

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="arithmetic Operations"

android:textSize="25sp"

android:layout\_marginBottom="16dp"

android:textColor="@android:color/black" />

<LinearLayout

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:orientation="horizontal"

android:layout\_marginBottom="20dp">

<EditText

android:id="@+id/first\_no"

android:layout\_width="102dp"

android:layout\_height="59dp"

android:ems="10"

android:layout\_marginHorizontal="50dp"

android:hint="Enter" />

<EditText

android:id="@+id/second\_no"

android:layout\_width="102dp"

android:layout\_height="59dp"

android:ems="10"

android:hint="Enter" />

</LinearLayout>

<LinearLayout

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:orientation="horizontal"

android:layout\_marginBottom="20dp">

<TextView

android:textSize="35sp"

android:id="@+id/answer"

android:layout\_width="102dp"

android:layout\_height="59dp"

android:layout\_marginHorizontal="50dp"

android:hint="ans" />

</LinearLayout>

<LinearLayout

android:orientation="vertical"

android:layout\_marginLeft="250dp"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginBottom="30dp">

<Button

android:id="@+id/sub"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="sub -"

android:textSize="25sp"

android:layout\_marginBottom="16dp" />

<Button

android:id="@+id/add"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginBottom="16dp"

android:text="add +"

android:textSize="25sp"

tools:ignore="OnClick" />

<Button

android:id="@+id/div"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="divide /"

android:textSize="25sp"

android:layout\_marginBottom="16dp" />

<Button

android:id="@+id/mul"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginBottom="16dp"

android:text="mul X"

android:textSize="25sp"/>

<Button

android:id="@+id/equals"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginBottom="16dp"

android:text="="

android:textSize="35sp"/>

</LinearLayout>

</LinearLayout>

MainActivity.java

package com.example.pratical18;

//import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

import android.support.v7.app.AppCompatActivity;

import android.view.View;

import android.widget.Button;

import android.widget.EditText;

import android.widget.TextView;

import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

EditText no1 , no2;

Button add ,mul ,div , sub,equal;

TextView answer;

double ans = 0;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

// for text views

no1 = findViewById(R.id.first\_no);

no2 = findViewById(R.id.second\_no);

// for button with operations

add = findViewById(R.id.add);

mul = findViewById(R.id.mul);

div = findViewById(R.id.div);

sub = findViewById(R.id.sub);

// for equal to button

equal = findViewById(R.id.equals);

// for answer field

answer = findViewById(R.id.answer);

add.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

String num1 = no1.getText().toString();

String num2 = no2.getText().toString();

if (num1.isEmpty() || num2.isEmpty()) {

Toast.makeText(getApplicationContext(),"Enter

Numbers",Toast.LENGTH\_SHORT).show();

}

else {

double a =

Double.parseDouble(no1.getText().toString());

double b =

Double.parseDouble(no2.getText().toString());

ans = a + b;

}

}

});

sub.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

String num1 = no1.getText().toString();

String num2 = no2.getText().toString();

if (num1.isEmpty() || num2.isEmpty()) {

Toast.makeText(getApplicationContext(),"Enter

Numbers",Toast.LENGTH\_SHORT).show();

}

else {

double a =

Double.parseDouble(no1.getText().toString());

double b =

Double.parseDouble(no2.getText().toString());

ans = a - b;

}

}

});

mul.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

String num1 = no1.getText().toString();

String num2 = no2.getText().toString();

if (num1.isEmpty() || num2.isEmpty()) {

Toast.makeText(getApplicationContext(),"Enter

Numbers",Toast.LENGTH\_SHORT).show();

}

else {

double a =

Double.parseDouble(no1.getText().toString());

double b =

Double.parseDouble(no2.getText().toString());

ans = a \* b;

}

}

});

div.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

String num1 = no1.getText().toString();

String num2 = no2.getText().toString();

if (num1.isEmpty() || num2.isEmpty()) {

Toast.makeText(getApplicationContext(), "Enter

Numbers", Toast.LENGTH\_SHORT).show();

} else {

double a =

Double.parseDouble(no1.getText().toString());

double b =

Double.parseDouble(no2.getText().toString());

if (b != 0)

ans = a / b;

else

Toast.makeText(getApplicationContext(), "Enter

Valid Numbers", Toast.LENGTH\_SHORT).show();

}

}

});

equal.setOnClickListener(new

View.OnClickListener() {

@Override

public void onClick(View v)

{

String ans1 =

String.valueOf(ans);

answer.setText(ans1);

ans= 0;

}

});

}

}

Slip3

Q.1) Create an application that allows the user to enter a number in the textbox. Check whether the number in the textbox is Armstrong or not. Print the message accordingly in the label control.

Sol

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

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

xmlns:tools="http://schemas.android.com/tools"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

tools:context=".MainActivity">

<EditText

android:id="@+id/editTextNumber"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_centerHorizontal="true"

android:layout\_marginTop="50dp"

android:hint="Enter a number"

android:inputType="number"/>

<Button

android:id="@+id/buttonCheck"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_below="@id/editTextNumber"

android:layout\_centerHorizontal="true"

android:layout\_marginTop="20dp"

android:text="Check"/>

<TextView

android:id="@+id/textViewResult"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_below="@id/buttonCheck"

android:layout\_centerHorizontal="true"

android:layout\_marginTop="20dp"

android:textSize="20sp"/>

</RelativeLayout>

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.EditText;

import android.widget.TextView;

public class MainActivity extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

final EditText numberEditText = findViewById(R.id.numberEditText);

Button checkButton = findViewById(R.id.checkButton);

final TextView resultTextView = findViewById(R.id.resultTextView);

checkButton.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

String numberStr = numberEditText.getText().toString();

if (!numberStr.isEmpty()) {

int number = Integer.parseInt(numberStr);

if (isArmstrong(number)) {

resultTextView.setText(number + " is an Armstrong number");

} else {

resultTextView.setText(number + " is not an Armstrong number");

}

} else {

resultTextView.setText("Please enter a number");

}

}

});

}

private boolean isArmstrong(int number) {

int originalNumber = number;

int numberOfDigits = String.valueOf(number).length();

int sum = 0;

while (number != 0) {

int digit = number % 10;

sum += Math.pow(digit, numberOfDigits);

number /= 10;

}

return sum == originalNumber;

}

}

Q.2) Create an Android application which examine a phone number entered by a user with the given format.

• Area code should be one of the following: 040, 041, 050, 0400, 044 • There should 6 - 8 numbers in telephone number (+ area code).

Sol

Activity\_main.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"

android:paddingLeft="16dp"

android:paddingRight="16dp"

android:orientation="vertical" >

<TextView

android:layout\_marginTop="200px"

android:id="@+id/textView"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:textSize="90px"

android:text="Enter Telephone Number " />

<Spinner

android:layout\_marginTop="50px"

android:id="@+id/spinner"

android:layout\_width="fill\_parent"

android:layout\_height="wrap\_content"

android:tooltipText="d"

android:scrollbarSize="10dp"

tools:ignore="ExtraText" />

<EditText

android:id="@+id/Phone"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:ems="10"

android:inputType="phone" />

<Button

android:id="@+id/button"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:text="Valid" />

</LinearLayout>

MainActivity.java

package com.example.pratical4;

import android.support.v7.app.AppCompatActivity;

import android.os.Bundle;

import android.widget.AdapterView;

import android.widget.ArrayAdapter;

import android.widget.Button;

import android.content.Intent;

import android.view.View;

import android.widget.EditText;

import android.widget.Spinner;

import android.widget.TextView;

import android.widget.Toast;

import java.util.ArrayList;

import java.util.List;

public class MainActivity extends AppCompatActivity implements

AdapterView.OnItemSelectedListener {

EditText edtuser;

Button btnLogin;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

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

spinner.setOnItemSelectedListener(this);

List<String> categories = new ArrayList<String>();

categories.add("+40");

categories.add("+41");

categories.add("+050");

categories.add("+0400");

categories.add("+044");

ArrayAdapter<String> dataAdapter = new

ArrayAdapter<String>(this,

android.R.layout.simple\_spinner\_item,

categories);

dataAdapter.setDropDownViewResource(android.R.layout.simple\_spinner\_dropdow

n\_item);

spinner.setAdapter(dataAdapter);

edtuser=(EditText)findViewById(R.id.Phone);

btnLogin=(Button)findViewById(R.id.button);

btnLogin.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View arg0) {

if (edtuser.getText().toString().trim().length()

== 0) {

edtuser.setError("Enter Mobile number ");

edtuser.requestFocus();

} if (edtuser.length() != 8) {

edtuser.setError("Enter correct Number ");

edtuser.requestFocus();

}

else {

Intent it = new

Intent(getApplicationContext(),

MainActivity.class);

startActivity(it);

}

}

} ) ;

}

@Override

public void onItemSelected(AdapterView<?> parent, View view,

int position, long id) {

String item =

parent.getItemAtPosition(position).toString();

Toast.makeText(parent.getContext(), "Selected: " + item,

Toast.LENGTH\_LONG).show();

}

public void onNothingSelected(AdapterView<?> arg0) {

}

}

Slip 4

Q.1) Construct image switcher using setFactory().

Sol

Activity\_main.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="match\_parent"

android:orientation="vertical">

<ImageSwitcher

android:id="@+id/simpleImageSwitcher"

android:layout\_width="match\_parent"

android:layout\_height="200dp"

android:layout\_gravity="center\_horizontal"

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

<Button

android:id="@+id/buttonNext"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginTop="150dp"

android:layout\_gravity="center"

android:background="#050"

android:textColor="#fff"

android:textStyle="bold"

android:text="NEXT" />

</LinearLayout>

MainActivity.java

package com.example.pratical8;

import android.os.Bundle;

import android.support.v7.app.AppCompatActivity;

import android.view.View;

import android.view.animation.Animation;

import android.view.animation.AnimationUtils;

import android.widget.Button;

import android.widget.ImageSwitcher;

import android.widget.ImageView;

import android.widget.LinearLayout;

import android.widget.ViewSwitcher;

public class MainActivity extends AppCompatActivity {

private ImageSwitcher simpleImageSwitcher;

Button btnNext;

// Array of Image IDs to Show In ImageSwitcher

int imageIds[] = {R.drawable.image1, R.drawable.images2,

R.drawable.image3, R.drawable.images4, R.drawable.images5};

int count = imageIds.length;

// to keep current Index of ImageID array

int currentIndex = -1;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

// get The references of Button and ImageSwitcher

btnNext = (Button) findViewById(R.id.buttonNext);

simpleImageSwitcher = (ImageSwitcher)

findViewById(R.id.simpleImageSwitcher);

// Set the ViewFactory of the ImageSwitcher that will create

ImageView object when asked

simpleImageSwitcher.setFactory(new ViewSwitcher.ViewFactory() {

public View makeView() {

// TODO Auto-generated method stub

// Create a new ImageView and set it's properties

ImageView imageView = new

ImageView(getApplicationContext());

// set Scale type of ImageView to Fit Center

imageView.setScaleType(ImageView.ScaleType.FIT\_CENTER);

// set the Height And Width of ImageView To FIll PARENT

imageView.setLayoutParams(new

ImageSwitcher.LayoutParams(LinearLayout.LayoutParams.FILL\_PARENT,

LinearLayout.LayoutParams.FILL\_PARENT));

return imageView;

}

});

// Declare in and out animations and load them using AnimationUtils

class

Animation in = AnimationUtils.loadAnimation(this,

android.R.anim.slide\_in\_left);

Animation out = AnimationUtils.loadAnimation(this,

android.R.anim.slide\_out\_right);

// set the animation type to ImageSwitcher

simpleImageSwitcher.setInAnimation(in);

simpleImageSwitcher.setOutAnimation(out);

// ClickListener for NEXT button

// When clicked on Button ImageSwitcher will switch between Images

// The current Image will go OUT and next Image will come in with

specified animation

btnNext.setOnClickListener(new View.OnClickListener() {

public void onClick(View v) {

// TODO Auto-generated method stub

currentIndex++;

// Check If index reaches maximum then reset it

if (currentIndex == count)

currentIndex = 0;

simpleImageSwitcher.setImageResource(imageIds[currentIndex]); // set the

image in ImageSwitcher

}

});

}

}

Q.2) Write a program to search a specific location on Google Map.

Sol

<uses-permission android:name="android.permission.ACCESS\_FINE\_LOCATION"/>

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

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

//gradle file

implementation 'com.google.android.gms:play-services-maps:17.0.0'

//xml

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

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

xmlns:map="http://schemas.android.com/apk/res-auto"

android:id="@+id/map"

android:name="com.google.android.gms.maps.SupportMapFragment"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

map:cameraTargetLat="YOUR\_DEFAULT\_LATITUDE"

map:cameraTargetLng="YOUR\_DEFAULT\_LONGITUDE"

map:cameraZoom="12"/>

//java

import android.os.Bundle;

import androidx.fragment.app.FragmentActivity;

import com.google.android.gms.maps.CameraUpdateFactory;

import com.google.android.gms.maps.GoogleMap;

import com.google.android.gms.maps.OnMapReadyCallback;

import com.google.android.gms.maps.SupportMapFragment;

import com.google.android.gms.maps.model.LatLng;

import com.google.android.gms.maps.model.MarkerOptions;

public class MapsActivity extends FragmentActivity implements OnMapReadyCallback {

private GoogleMap mMap;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_maps);

// Obtain the SupportMapFragment and get notified when the map is ready to be used.

SupportMapFragment mapFragment = (SupportMapFragment) getSupportFragmentManager()

.findFragmentById(R.id.map);

mapFragment.getMapAsync(this);

}

@Override

public void onMapReady(GoogleMap googleMap) {

mMap = googleMap;

// Add a marker in the default location and move the camera

LatLng defaultLocation = new LatLng(YOUR\_DEFAULT\_LATITUDE, YOUR\_DEFAULT\_LONGITUDE);

mMap.addMarker(new MarkerOptions().position(defaultLocation).title("Marker in Default Location"));

mMap.moveCamera(CameraUpdateFactory.newLatLng(defaultLocation));

}

}

Slip 5

Q.1) Java Android Program to Demonstrate Alert Dialog Box.

Sol

Activity\_main.xml

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

<android.support.constraint.ConstraintLayout

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

xmlns:app="http://schemas.android.com/apk/res-auto"

xmlns:tools="http://schemas.android.com/tools"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

tools:context=".MainActivity">

<Button

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:id="@+id/button"

android:text="Close app"

app:layout\_constraintBottom\_toBottomOf="parent"

app:layout\_constraintLeft\_toLeftOf="parent"

app:layout\_constraintRight\_toRightOf="parent"

app:layout\_constraintTop\_toTopOf="parent" />

</android.support.constraint.ConstraintLayout>

Values

Strings.xml

<resources>

<string name="app\_name">AlertDialog</string>

<string name="dialog\_message">Welcome to Alert Dialog</string>

<string name="dialog\_title">Javatpoint Alert Dialog</string>

</resources>

MainActivity.java

package com.example.pratical20;

import android.content.DialogInterface;

import android.support.v7.app.AppCompatActivity;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.app.AlertDialog;

import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

Button closeButton;

AlertDialog.Builder builder;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

closeButton = (Button) findViewById(R.id.button);

builder = new AlertDialog.Builder(this);

closeButton.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

//Uncomment the below code to Set the message and title

from the strings.xml file

builder.setMessage(R.string.dial

og\_message) .setTitle(R.string.dialog\_title);

//Setting message manually and performing action on button

click

builder.setMessage("Do you want to close this

application ?")

.setCancelable(false)

.setPositiveButton("Yes", new

DialogInterface.OnClickListener() {

public void onClick(DialogInterface dialog, int

id) {

finish();

Toast.makeText(getApplicationContext(),"you

choose yes action for alertbox",

Toast.LENGTH\_SHORT).show();

}

})

.setNegativeButton("No", new

DialogInterface.OnClickListener() {

public void onClick(DialogInterface dialog, int

id) {

// Action for 'NO' Button

dialog.cancel();

Toast.makeText(getApplicationContext(),"you

choose no action for alertbox",

Toast.LENGTH\_SHORT).show();

}

});

//Creating dialog box

AlertDialog alert = builder.create();

//Setting the title manually

alert.setTitle("AlertDialogExample");

alert.show();

}

});

}

}

Q.2) Create an Android application which will ask the user to input his / her name. A message should display the two items concatenated in a label. Change the format of the label using radio buttons and check boxes for selection. The user can make the label text bold, underlined or italic as well as change its color. Also include buttons to display the message in the label, clear the text boxes as well as label. Finally exit

Sol

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

xmlns:tools="http://schemas.android.com/tools"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

tools:context=".MainActivity">

<EditText

android:id="@+id/editTextName"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:hint="Enter your name"

android:layout\_margin="16dp"/>

<Button

android:id="@+id/buttonDisplay"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_below="@id/editTextName"

android:text="Display"

android:layout\_marginTop="16dp"

android:onClick="displayMessage"/>

<Button

android:id="@+id/buttonClear"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_below="@id/buttonDisplay"

android:text="Clear"

android:layout\_marginTop="16dp"

android:onClick="clearFields"/>

<TextView

android:id="@+id/textViewMessage"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_below="@id/buttonClear"

android:text=""

android:layout\_marginTop="16dp"/>

<!-- Radio buttons for text formatting -->

<RadioGroup

android:id="@+id/radioGroupFormat"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_below="@id/textViewMessage"

android:layout\_marginTop="16dp">

<RadioButton

android:id="@+id/radioButtonBold"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Bold"/>

<RadioButton

android:id="@+id/radioButtonItalic"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Italic"/>

<RadioButton

android:id="@+id/radioButtonUnderline"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Underline"/>

</RadioGroup>

<!-- Checkboxes for text color -->

<CheckBox

android:id="@+id/checkBoxRed"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Red"

android:layout\_below="@id/radioGroupFormat"

android:layout\_marginTop="16dp"/>

<CheckBox

android:id="@+id/checkBoxBlue"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Blue"

android:layout\_below="@id/checkBoxRed"

android:layout\_marginTop="16dp"/>

<CheckBox

android:id="@+id/checkBoxGreen"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Green"

android:layout\_below="@id/checkBoxBlue"

android:layout\_marginTop="16dp"/>

</RelativeLayout>

import android.graphics.Color;

import android.graphics.Typeface;

import android.os.Bundle;

import android.view.View;

import android.widget.CheckBox;

import android.widget.EditText;

import android.widget.RadioButton;

import android.widget.RadioGroup;

import android.widget.TextView;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

EditText editTextName;

TextView textViewMessage;

RadioGroup radioGroupFormat;

RadioButton radioButtonBold, radioButtonItalic, radioButtonUnderline;

CheckBox checkBoxRed, checkBoxBlue, checkBoxGreen;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

editTextName = findViewById(R.id.editTextName);

textViewMessage = findViewById(R.id.textViewMessage);

radioGroupFormat = findViewById(R.id.radioGroupFormat);

radioButtonBold = findViewById(R.id.radioButtonBold);

radioButtonItalic = findViewById(R.id.radioButtonItalic);

radioButtonUnderline = findViewById(R.id.radioButtonUnderline);

checkBoxRed = findViewById(R.id.checkBoxRed);

checkBoxBlue = findViewById(R.id.checkBoxBlue);

checkBoxGreen = findViewById(R.id.checkBoxGreen);

}

public void displayMessage(View view) {

String name = editTextName.getText().toString();

StringBuilder message = new StringBuilder(name);

// Apply text formatting based on selected radio button

int formatId = radioGroupFormat.getCheckedRadioButtonId();

if (formatId == R.id.radioButtonBold) {

textViewMessage.setTypeface(null, Typeface.BOLD);

} else if (formatId == R.id.radioButtonItalic) {

textViewMessage.setTypeface(null, Typeface.ITALIC);

} else if (formatId == R.id.radioButtonUnderline) {

textViewMessage.setPaintFlags(textViewMessage.getPaintFlags() | android.graphics.Paint.UNDERLINE\_TEXT\_FLAG);

}

// Apply text color based on selected checkboxes

int color = Color.BLACK;

if (checkBoxRed.isChecked()) {

color = Color.RED;

} else if (checkBoxBlue.isChecked()) {

color = Color.BLUE;

} else if (checkBoxGreen.isChecked()) {

color = Color.GREEN;

}

textViewMessage.setTextColor(color);

textViewMessage.setText(message.toString());

}

public void clearFields(View view) {

editTextName.setText("");

textViewMessage.setText("");

radioGroupFormat.clearCheck();

checkBoxRed.setChecked(false);

checkBoxBlue.setChecked(false);

checkBoxGreen.setChecked(false);

}

}

Slip 6

Q.1) Java Android Program to demonstrate login form with validation.

Sol

Activity\_main.xml

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

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

android:orientation="vertical" android:layout\_width="match\_parent"

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

<TextView

android:id="@+id/loginscrn"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginTop="80dp"

android:text="Login"

android:textSize="25dp"

android:textStyle="bold"

android:layout\_gravity="center"/>

<TextView

android:id="@+id/fstTxt"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginLeft="100dp"

android:layout\_marginTop="20dp"

android:text="Email"/>

<EditText

android:id="@+id/txtEmail1"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginLeft="100dp"

android:ems="10"/>

<TextView

android:id="@+id/secTxt1"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Password"

android:layout\_marginLeft="100dp" />

<EditText

android:id="@+id/txtPwd1"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginLeft="100dp"

android:inputType="textPassword"

android:ems="10" />

<Button

android:id="@+id/btnLogin1"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginLeft="100dp"

android:text="Login" />

<TextView android:id="@+id/lnkRegister"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_marginTop="40dp"

android:text="New to Tutlane? Register here"

android:gravity="center"

android:textSize="20dp"

android:textColor="#3F51B5"/>

</LinearLayout>

MainActivity.java

package com.example.myapplication1;

import static com.example.myapplication1.R.id.txtPwd1;

import android.annotation.SuppressLint;

import android.os.Bundle;

import android.app.Activity;

import android.content.Intent;

import android.view.Menu;

import android.view.View;

import android.widget.Button;

import android.widget.EditText;

public class MainActivity extends Activity {

EditText edtuser, edtpass;

Button btnLogin;

@SuppressLint("MissingInflatedId")

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

edtuser = (EditText) findViewById(R.id.txtEmail1);

edtpass = (EditText) findViewById(R.id.txtPwd1);

btnLogin = (Button) findViewById(R.id.btnLogin1);

btnLogin.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View arg0) {

// TODO Auto-generated method stub

if (edtuser.getText().toString().trim().length() == 0) {

edtuser.setError("Username is not entered");

edtuser.requestFocus();

}

if (edtpass.getText().toString().trim().length() == 0) {

edtpass.setError("Password is not entered");

edtpass.requestFocus();

} else {

Intent it = new Intent(getApplicationContext(),

MainActivity.class);

startActivity(it);

}

}

});

}

}

Q2)Write a program to search a specific location on Google Map.

Sol

<uses-permission android:name="android.permission.ACCESS\_FINE\_LOCATION"/>

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

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

//gradle file

implementation 'com.google.android.gms:play-services-maps:17.0.0'

//xml

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

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

xmlns:map="http://schemas.android.com/apk/res-auto"

android:id="@+id/map"

android:name="com.google.android.gms.maps.SupportMapFragment"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

map:cameraTargetLat="YOUR\_DEFAULT\_LATITUDE"

map:cameraTargetLng="YOUR\_DEFAULT\_LONGITUDE"

map:cameraZoom="12"/>

//java

import android.os.Bundle;

import androidx.fragment.app.FragmentActivity;

import com.google.android.gms.maps.CameraUpdateFactory;

import com.google.android.gms.maps.GoogleMap;

import com.google.android.gms.maps.OnMapReadyCallback;

import com.google.android.gms.maps.SupportMapFragment;

import com.google.android.gms.maps.model.LatLng;

import com.google.android.gms.maps.model.MarkerOptions;

public class MapsActivity extends FragmentActivity implements OnMapReadyCallback {

private GoogleMap mMap;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_maps);

// Obtain the SupportMapFragment and get notified when the map is ready to be used.

SupportMapFragment mapFragment = (SupportMapFragment) getSupportFragmentManager()

.findFragmentById(R.id.map);

mapFragment.getMapAsync(this);

}

@Override

public void onMapReady(GoogleMap googleMap) {

mMap = googleMap;

// Add a marker in the default location and move the camera

LatLng defaultLocation = new LatLng(YOUR\_DEFAULT\_LATITUDE, YOUR\_DEFAULT\_LONGITUDE);

mMap.addMarker(new MarkerOptions().position(defaultLocation).title("Marker in Default Location"));

mMap.moveCamera(CameraUpdateFactory.newLatLng(defaultLocation));

}

}

Slip 7

Q.1] Java Android Program to Demonstrate ProgressBar.

Sol

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

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

xmlns:tools="http://schemas.android.com/tools"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

tools:context=".MainActivity">

<Button

android:id="@+id/startButton"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Start"

android:layout\_centerHorizontal="true"

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

<ProgressBar

android:id="@+id/progressBar"

style="?android:attr/progressBarStyleHorizontal"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_below="@id/startButton"

android:layout\_marginTop="50dp"

android:max="100"

android:progress="0"/>

</RelativeLayout>

import android.os.Bundle;

import android.os.Handler;

import android.support.v7.app.AppCompatActivity;

import android.view.View;

import android.widget.Button;

import android.widget.ProgressBar;

public class MainActivity extends AppCompatActivity {

private ProgressBar progressBar;

private int progressStatus = 0;

private Handler handler = new Handler();

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

progressBar = findViewById(R.id.progressBar);

Button startButton = findViewById(R.id.startButton);

startButton.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

// Reset progress status

progressStatus = 0;

// Start a background thread to update progress

new Thread(new Runnable() {

public void run() {

while (progressStatus < 100) {

progressStatus += 5; // Increase progress by 5%

// Update the progress bar and UI on the main thread

handler.post(new Runnable() {

public void run() {

progressBar.setProgress(progressStatus);

}

});

try {

// Simulate some work being done

Thread.sleep(500);

} catch (InterruptedException e) {

e.printStackTrace();

}

}

}

}).start(); // Start the thread

}

});

}

}

//android manifest file

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

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

package="com.example.progressbardemo">

<application

android:allowBackup="true"

android:icon="@mipmap/ic\_launcher"

android:label="@string/app\_name"

android:roundIcon="@mipmap/ic\_launcher\_round"

android:supportsRtl="true"

android:theme="@style/AppTheme">

<activity android:name=".MainActivity">

<intent-filter>

<action android:name="android.intent.action.MAIN" />

<category android:name="android.intent.category.LAUNCHER" />

</intent-filter>

</activity>

</application>

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

<!-- Add any other permissions your app might need here -->

</manifest>

Q.2] Create table Employee (E\_id, name, address, ph\_no). Create Application for performing the following operation on the table. (Using SQLite database). i] Insert record of 5 new Employees. ii] Show all the details of Employee.

Sol

// Create Java class

public class Employee {

private int id;

private String name;

private String address;

private String phoneNumber;

// Constructor, getters, and setters

}

//Create Databasehelper Class

import android.content.Context;

import android.database.sqlite.SQLiteDatabase;

import android.database.sqlite.SQLiteOpenHelper;

public class DatabaseHelper extends SQLiteOpenHelper {

private static final String DATABASE\_NAME = "EmployeeDB";

private static final int DATABASE\_VERSION = 1;

// Table name and columns

private static final String TABLE\_EMPLOYEE = "Employee";

private static final String COLUMN\_ID = "E\_id";

private static final String COLUMN\_NAME = "name";

private static final String COLUMN\_ADDRESS = "address";

private static final String COLUMN\_PHONE\_NUMBER = "ph\_no";

// Create table SQL query

private static final String CREATE\_EMPLOYEE\_TABLE =

"CREATE TABLE " + TABLE\_EMPLOYEE + "("

+ COLUMN\_ID + " INTEGER PRIMARY KEY,"

+ COLUMN\_NAME + " TEXT,"

+ COLUMN\_ADDRESS + " TEXT,"

+ COLUMN\_PHONE\_NUMBER + " TEXT"

+ ")";

public DatabaseHelper(Context context) {

super(context, DATABASE\_NAME, null, DATABASE\_VERSION);

}

@Override

public void onCreate(SQLiteDatabase db) {

db.execSQL(CREATE\_EMPLOYEE\_TABLE);

}

@Override

public void onUpgrade(SQLiteDatabase db, int oldVersion, int newVersion) {

// Drop older table if existed

db.execSQL("DROP TABLE IF EXISTS " + TABLE\_EMPLOYEE);

// Create tables again

onCreate(db);

}

// CRUD Operations (Insert, Read, Update, Delete) will be implemented here

}

//Add method in Datahelper

public void addEmployee(Employee employee) {

SQLiteDatabase db = this.getWritableDatabase();

ContentValues values = new ContentValues();

values.put(COLUMN\_NAME, employee.getName());

values.put(COLUMN\_ADDRESS, employee.getAddress());

values.put(COLUMN\_PHONE\_NUMBER, employee.getPhoneNumber());

db.insert(TABLE\_EMPLOYEE, null, values);

db.close();

}

public List<Employee> getAllEmployees() {

List<Employee> employees = new ArrayList<>();

String selectQuery = "SELECT \* FROM " + TABLE\_EMPLOYEE;

SQLiteDatabase db = this.getWritableDatabase();

Cursor cursor = db.rawQuery(selectQuery, null);

if (cursor.moveToFirst()) {

do {

Employee employee = new Employee();

employee.setId(cursor.getInt(0));

employee.setName(cursor.getString(1));

employee.setAddress(cursor.getString(2));

employee.setPhoneNumber(cursor.getString(3));

employees.add(employee);

} while (cursor.moveToNext());

}

cursor.close();

db.close();

return employees;

}

//Create Mainactivity

import android.os.Bundle;

import android.support.v7.app.AppCompatActivity;

import android.widget.TextView;

import java.util.List;

public class MainActivity extends AppCompatActivity {

private TextView textViewEmployees;

private DatabaseHelper databaseHelper;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

textViewEmployees = findViewById(R.id.textViewEmployees);

databaseHelper = new DatabaseHelper(this);

// Insert 5 new employees

addSampleEmployees();

// Show all employees

showAllEmployees();

}

private void addSampleEmployees() {

databaseHelper.addEmployee(new Employee("John Doe", "Address 1", "1234567890"));

databaseHelper.addEmployee(new Employee("Jane Smith", "Address 2", "9876543210"));

databaseHelper.addEmployee(new Employee("Michael Johnson", "Address 3", "4561237890"));

databaseHelper.addEmployee(new Employee("Emily Davis", "Address 4", "7894561230"));

databaseHelper.addEmployee(new Employee("David Wilson", "Address 5", "3216549870"));

}

private void showAllEmployees() {

List<Employee> employees = databaseHelper.getAllEmployees();

StringBuilder stringBuilder = new StringBuilder();

for (Employee employee : employees) {

stringBuilder.append("ID: ").append(employee.getId())

.append(", Name: ").append(employee.getName())

.append(", Address: ").append(employee.getAddress())

.append(", Phone: ").append(employee.getPhoneNumber())

.append("\n\n");

}

textViewEmployees.setText(stringBuilder.toString());

}

}

//Create activity\_main.xml

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

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

xmlns:tools="http://schemas.android.com/tools"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:padding="16dp"

tools:context=".MainActivity">

<TextView

android:id="@+id/textViewEmployees"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:textSize="16sp" />

</RelativeLayout>

//create manifest file

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

package="com.example.employeeapp">

<application

android:allowBackup="true"

android:icon="@mipmap/ic\_launcher"

android:label="@string/app\_name"

android:roundIcon="@mipmap/ic\_launcher\_round"

android:supportsRtl="true"

android:theme="@style/AppTheme">

<activity android:name=".MainActivity">

<intent-filter>

<action android:name="android.intent.action.MAIN" />

<category android:name="android.intent.category.LAUNCHER" />

</intent-filter>

</activity>

</application>

<!-- Required permission for accessing SQLite database -->

<uses-permission android:name="android.permission.WRITE\_EXTERNAL\_STORAGE" />

<uses-permission android:name="android.permission.READ\_EXTERNAL\_STORAGE" />

</manifest>

Slip 8

Q.1] Create a Application which shows Life Cycle of Activity.

Sol

//activity\_main.xml

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

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

xmlns:tools="http://schemas.android.com/tools"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

tools:context=".MainActivity">

<Button

android:id="@+id/button"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Go to Second Activity"

android:layout\_centerInParent="true"/>

</RelativeLayout>

//main.java

import android.content.Intent;

import android.os.Bundle;

import android.util.Log;

import android.view.View;

import android.widget.Button;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

private static final String TAG = "MainActivity";

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

Log.d(TAG, "onCreate");

Button button = findViewById(R.id.button);

button.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

startActivity(new Intent(MainActivity.this, SecondActivity.class));

}

});

}

@Override

protected void onStart() {

super.onStart();

Log.d(TAG, "onStart");

}

@Override

protected void onResume() {

super.onResume();

Log.d(TAG, "onResume");

}

@Override

protected void onPause() {

super.onPause();

Log.d(TAG, "onPause");

}

@Override

protected void onStop() {

super.onStop();

Log.d(TAG, "onStop");

}

@Override

protected void onDestroy() {

super.onDestroy();

Log.d(TAG, "onDestroy");

}

}

//second\_activity.xml

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

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

xmlns:tools="http://schemas.android.com/tools"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

tools:context=".SecondActivity">

<!-- Add your UI elements here -->

</RelativeLayout>

//second\_activity.java

import android.os.Bundle;

import android.util.Log;

import androidx.appcompat.app.AppCompatActivity;

public class SecondActivity extends AppCompatActivity {

private static final String TAG = "SecondActivity";

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_second);

Log.d(TAG, "onCreate");

}

@Override

protected void onStart() {

super.onStart();

Log.d(TAG, "onStart");

}

@Override

protected void onResume() {

super.onResume();

Log.d(TAG, "onResume");

}

@Override

protected void onPause() {

super.onPause();

Log.d(TAG, "onPause");

}

@Override

protected void onStop() {

super.onStop();

Log.d(TAG, "onStop")

}

@Override

protected void onDestroy() {

super.onDestroy();

Log.d(TAG, "onDestroy");

}

}

//manifest.xml

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

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

package="com.example.lifecycleactivity">

<application

android:allowBackup="true"

android:icon="@mipmap/ic\_launcher"

android:label="@string/app\_name"

android:roundIcon="@mipmap/ic\_launcher\_round"

android:supportsRtl="true"

android:theme="@style/AppTheme">

<activity android:name=".MainActivity">

<intent-filter>

<action android:name="android.intent.action.MAIN" />

<category android:name="android.intent.category.LAUNCHER" />

</intent-filter>

</activity>

<activity android:name=".SecondActivity" />

</application>

</manifest>

Q.2] Create table Customer (id, name, address, ph\_no). Create Application for performing the following operation on the table. (Using SQLite database). i] Insert new customer details (At least 5 records). ii] Show all the customer details

Sol

//customer.java

public class Customer {

private int id;

private String name;

private String address;

private String phoneNumber;

public Customer() {

}

public Customer(String name, String address, String phoneNumber) {

this.name = name;

this.address = address;

this.phoneNumber = phoneNumber;

}

// Getters and setters

}

//Create Datahelper.java

import android.content.ContentValues;

import android.content.Context;

import android.database.Cursor;

import android.database.sqlite.SQLiteDatabase;

import android.database.sqlite.SQLiteOpenHelper;

import java.util.ArrayList;

import java.util.List;

public class DatabaseHelper extends SQLiteOpenHelper {

private static final String DATABASE\_NAME = "CustomerDB";

private static final int DATABASE\_VERSION = 1;

private static final String TABLE\_CUSTOMER = "Customer";

private static final String COLUMN\_ID = "id";

private static final String COLUMN\_NAME = "name";

private static final String COLUMN\_ADDRESS = "address";

private static final String COLUMN\_PHONE\_NUMBER = "ph\_no";

private static final String CREATE\_CUSTOMER\_TABLE =

"CREATE TABLE " + TABLE\_CUSTOMER + "("

+ COLUMN\_ID + " INTEGER PRIMARY KEY,"

+ COLUMN\_NAME + " TEXT,"

+ COLUMN\_ADDRESS + " TEXT,"

+ COLUMN\_PHONE\_NUMBER + " TEXT"

+ ")";

public DatabaseHelper(Context context) {

super(context, DATABASE\_NAME, null, DATABASE\_VERSION);

}

@Override

public void onCreate(SQLiteDatabase db) {

db.execSQL(CREATE\_CUSTOMER\_TABLE);

}

@Override

public void onUpgrade(SQLiteDatabase db, int oldVersion, int newVersion) {

db.execSQL("DROP TABLE IF EXISTS " + TABLE\_CUSTOMER);

onCreate(db);

}

public void addCustomer(Customer customer) {

SQLiteDatabase db = this.getWritableDatabase();

ContentValues values = new ContentValues();

values.put(COLUMN\_NAME, customer.getName());

values.put(COLUMN\_ADDRESS, customer.getAddress());

values.put(COLUMN\_PHONE\_NUMBER, customer.getPhoneNumber());

db.insert(TABLE\_CUSTOMER, null, values);

db.close();

}

public List<Customer> getAllCustomers() {

List<Customer> customers = new ArrayList<>();

String selectQuery = "SELECT \* FROM " + TABLE\_CUSTOMER;

SQLiteDatabase db = this.getWritableDatabase();

Cursor cursor = db.rawQuery(selectQuery, null);

if (cursor.moveToFirst()) {

do {

Customer customer = new Customer();

customer.setId(cursor.getInt(cursor.getColumnIndex(COLUMN\_ID)));

customer.setName(cursor.getString(cursor.getColumnIndex(COLUMN\_NAME)));

customer.setAddress(cursor.getString(cursor.getColumnIndex(COLUMN\_ADDRESS)));

customer.setPhoneNumber(cursor.getString(cursor.getColumnIndex(COLUMN\_PHONE\_NUMBER)));

customers.add(customer);

} while (cursor.moveToNext());

}

cursor.close();

db.close();

return customers;

}

}

//mainactivity.java

import android.os.Bundle;

import android.support.v7.app.AppCompatActivity;

import android.widget.TextView;

import java.util.List;

public class MainActivity extends AppCompatActivity {

private TextView textViewCustomers;

private DatabaseHelper databaseHelper;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

textViewCustomers = findViewById(R.id.textViewCustomers);

databaseHelper = new DatabaseHelper(this);

// Insert sample customer details

addSampleCustomers();

// Display all customer details

showAllCustomers();

}

private void addSampleCustomers() {

databaseHelper.addCustomer(new Customer("John Doe", "123 Main St", "555-1234"));

databaseHelper.addCustomer(new Customer("Jane Smith", "456 Elm St", "555-5678"));

databaseHelper.addCustomer(new Customer("Michael Johnson", "789 Oak St", "555-9012"));

databaseHelper.addCustomer(new Customer("Emily Davis", "101 Pine St", "555-3456"));

databaseHelper.addCustomer(new Customer("David Wilson", "202 Maple St", "555-7890"));

}

private void showAllCustomers() {

List<Customer> customers = databaseHelper.getAllCustomers();

StringBuilder stringBuilder = new StringBuilder();

for (Customer customer : customers) {

stringBuilder.append("ID: ").append(customer.getId())

.append(", Name: ").append(customer.getName())

.append(", Address: ").append(customer.getAddress())

.append(", Phone: ").append(customer.getPhoneNumber())

.append("\n\n");

}

textViewCustomers.setText(stringBuilder.toString());

}

}

//activity\_main.xml

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

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

xmlns:tools="http://schemas.android.com/tools"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:padding="16dp"

tools:context=".MainActivity">

<TextView

android:id="@+id/textViewCustomers"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:textSize="16sp" />

</RelativeLayout>

//Android\_manifest.xml

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

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

package="com.example.customerapp">

<application

android:allowBackup="true"

android:icon="@mipmap/ic\_launcher"

android:label="@string/app\_name"

android:roundIcon="@mipmap/ic\_launcher\_round"

android:supportsRtl="true"

android:theme="@style/AppTheme">

<activity android:name=".MainActivity">

<intent-filter>

<action android:name="android.intent.action.MAIN" />

<category android:name="android.intent.category.LAUNCHER" />

</intent-filter>

</activity>

</application>

<!-- Required permission for accessing SQLite database -->

<uses-permission android:name="android.permission.WRITE\_EXTERNAL\_STORAGE" />

<uses-permission android:name="android.permission.READ\_EXTERNAL\_STORAGE" />

</manifest>

Slip 9

Q.1] Create an application that allows the user to enter a number in the textbox named „getnum‟. Check whether the number in the textbox „getnum‟ is Palindrome or not. Print the message accordingly in the label when the user clicks on the button „Check‟.

Sol

Activity\_main.xml

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

<android.support.constraint.ConstraintLayout

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

xmlns:app="http://schemas.android.com/apk/res-auto"

xmlns:tools="http://schemas.android.com/tools"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

tools:context=".MainActivity">

<EditText

android:id="@+id/string"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:ems="10"

android:inputType="textPersonName"

android:minHeight="48dp"

android:hint="Enter the String"

app:layout\_constraintBottom\_toBottomOf="parent"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintHorizontal\_bias="0.497"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toTopOf="parent"

app:layout\_constraintVertical\_bias="0.192" />

<Button

android:id="@+id/button"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Check Palindrome"

app:layout\_constraintStart\_toStartOf="@+id/string"

app:layout\_constraintEnd\_toEndOf="@+id/string"

app:layout\_constraintTop\_toBottomOf="@+id/string"

android:layout\_marginTop="30dp"/>

<TextView

android:id="@+id/textView"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:textSize="14sp"

app:layout\_constraintStart\_toStartOf="@+id/button"

app:layout\_constraintEnd\_toEndOf="@+id/button"

app:layout\_constraintTop\_toBottomOf="@+id/button"

android:layout\_marginTop="30dp"/>

</android.support.constraint.ConstraintLayout>

MainActivity.java

package com.example.pratical14;

import android.annotation.SuppressLint;

import android.os.Bundle;

import android.support.v7.app.AppCompatActivity;

import android.widget.Button;

import android.widget.EditText;

import android.widget.TextView;

public class MainActivity extends AppCompatActivity {

EditText string;

TextView result;

Button button;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

string = findViewById(R.id.string);

result = findViewById(R.id.textView);

button = findViewById(R.id.button);

button.setOnClickListener(view -> {

String stringValue = string.getText().toString();

checkPalindrome(stringValue);

});

}

@SuppressLint("SetTextI18n")

private void checkPalindrome(String stringValue) {

String reversed = new

StringBuilder(stringValue).reverse().toString();

if(stringValue.equals(reversed))

{

result.setText("Palindrome");

}

else

{

result.setText("Not Palindrome");

}

}

}

Q.2] Java android program to create simple calculator.

Sol

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

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

xmlns:tools="http://schemas.android.com/tools"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

tools:context=".MainActivity">

<TextView

android:id="@+id/display"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:textSize="24sp"

android:padding="10dp"

android:gravity="end"

android:layout\_alignParentTop="true"

android:background="#DDDDDD"/>

<Button

android:id="@+id/btnClear"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:text="C"

android:layout\_below="@id/display"

android:onClick="clearClick"/>

<Button

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="7"

android:layout\_below="@id/btnClear"

android:onClick="buttonClick"/>

<Button

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="8"

android:layout\_toRightOf="@id/btn7"

android:layout\_below="@id/btnClear"

android:onClick="buttonClick"/>

<Button

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="9"

android:layout\_toRightOf="@id/btn8"

android:layout\_below="@id/btnClear"

android:onClick="buttonClick"/>

<Button

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="+"

android:layout\_toRightOf="@id/btn9"

android:layout\_below="@id/btnClear"

android:onClick="operatorClick"/>

<!-- Repeat buttons for other numbers and operators -->

<Button

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="="

android:layout\_below="@id/btn0"

android:layout\_alignParentRight="true"

android:onClick="equalsClick"/>

</RelativeLayout>

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.TextView;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

private TextView display;

private String input = "";

private double num1 = 0;

private double num2 = 0;

private char operator;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

display = findViewById(R.id.display);

}

public void buttonClick(View view) {

Button button = (Button) view;

input += button.getText().toString();

display.setText(input);

}

public void operatorClick(View view) {

Button button = (Button) view;

operator = button.getText().charAt(0);

num1 = Double.parseDouble(input);

input = "";

}

public void equalsClick(View view) {

num2 = Double.parseDouble(input);

double result = 0;

switch (operator) {

case '+':

result = num1 + num2;

break;

case '-':

result = num1 - num2;

break;

case '×':

result = num1 \* num2;

break;

case '÷':

result = num1 / num2;

break;

}

display.setText(String.valueOf(result));

input = String.valueOf(result);

}

public void clearClick(View view) {

input = "";

num1 = 0;

num2 = 0;

operator = ' ';

display.setText("");

}

}

Slip 10

Q.1] Create an application that allows the user to enter a number in the textbox named getnum. Check whether the number in the textbox getnum is Armstrong or not. Print the message using Toast control when the user clicks on the button Check.

Sol

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

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

xmlns:tools="http://schemas.android.com/tools"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

tools:context=".MainActivity">

<EditText

android:id="@+id/getnum"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:hint="Enter a number"

android:inputType="number"

android:layout\_margin="16dp"

android:padding="10dp"/>

<Button

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Check"

android:layout\_below="@id/getnum"

android:layout\_centerHorizontal="true"

android:onClick="checkArmstrong"/>

</RelativeLayout>

import android.os.Bundle;

import android.view.View;

import android.widget.EditText;

import android.widget.Toast;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

EditText getnum;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

getnum = findViewById(R.id.getnum);

}

public void checkArmstrong(View view) {

String numberStr = getnum.getText().toString();

int number;

try {

number = Integer.parseInt(numberStr);

} catch (NumberFormatException e) {

Toast.makeText(this, "Please enter a valid number", Toast.LENGTH\_SHORT).show();

return;

}

int originalNumber, remainder, result = 0, n = 0;

originalNumber = number;

for (;originalNumber != 0; originalNumber /= 10, ++n);

originalNumber = number;

for (;originalNumber != 0; originalNumber /= 10) {

remainder = originalNumber % 10;

result += Math.pow(remainder, n);

}

if(result == number)

Toast.makeText(this, number + " is an Armstrong number", Toast.LENGTH\_SHORT).show();

else

Toast.makeText(this, number + " is not an Armstrong number", Toast.LENGTH\_SHORT).show();

}

}

Q.2] Write a program to draw GUI by using Spinner, Buttons.

Sol

Activity\_main.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"

android:paddingLeft="16dp"

android:paddingRight="16dp"

android:orientation="vertical" >

<TextView

android:layout\_marginTop="100px"

android:id="@+id/textView"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:textSize="60px"

android:text="Enter Item :- " />

<EditText

android:id="@+id/editTextTextPersonName"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:ems="10"

android:inputType="textPersonName"

/>

<TableLayout

android:layout\_width="match\_parent"

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

<TableRow>

<Button

android:layout\_marginTop="100px"

android:id="@+id/button"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:width="500px"

android:height="150px"

android:text="Add To Spinner" />

<Button

android:layout\_marginTop="100px"

android:id="@+id/button2"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:width="500px"

android:height="150px"

android:text="Remove To Spinner" />

</TableRow>

</TableLayout>

<TextView

android:layout\_marginTop="100px"

android:id="@+id/textView3"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:textSize="80px"

android:text="See Response Below :-" />

<Spinner

android:layout\_marginTop="200px"

android:id="@+id/spinner"

android:layout\_width="fill\_parent"

android:layout\_height="wrap\_content"

android:tooltipText="d"

android:scrollbarSize="10dp"

tools:ignore="ExtraText" />

</LinearLayout>

MainActivity.java

package com.example.pratical5;

import android.support.v7.app.AppCompatActivity;

import android.os.Bundle;

import android.widget.AdapterView;

import android.widget.ArrayAdapter;

import android.widget.Button;

import android.content.Intent;

import android.view.View;

import android.widget.EditText;

import android.widget.Spinner;

import android.widget.TextView;

import android.widget.Toast;

import java.util.ArrayList;

import java.util.List;

public class MainActivity extends AppCompatActivity implements

AdapterView.OnItemSelectedListener {

EditText edtuser;

Button btnLogin;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

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

spinner.setOnItemSelectedListener(this);

List<String> categories = new ArrayList<String>();

categories.add("Apple");

categories.add("Banana");

categories.add("Grape");

categories.add("Mango");

categories.add("Pineapple");

categories.add("Watermelon");

ArrayAdapter<String> dataAdapter = new

ArrayAdapter<String>(this,

android.R.layout.simple\_spinner\_item,

categories);

dataAdapter.setDropDownViewResource(android.R.layout.simple\_spinner\_dropdow

n\_item);

spinner.setAdapter(dataAdapter);

}

@Override

public void onItemSelected(AdapterView<?> parent, View view,

int position, long id) {

String item =

parent.getItemAtPosition(position).toString();

Toast.makeText(parent.getContext(), "Selected: " + item,

Toast.LENGTH\_LONG).show();

}

public void onNothingSelected(AdapterView<?> arg0) {

}

}

Slip 11

Q.1] Create an Android Application to accept two numbers to calculate its Power and Average. Create two buttons: Power and Average. Display the appropriate result on the next activity on Button click.

Sol

//Activity\_main.xml

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

xmlns:tools="http://schemas.android.com/tools"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

tools:context=".MainActivity">

<EditText

android:id="@+id/editTextNumber1"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:hint="Enter Number 1"

android:inputType="numberDecimal" />

<EditText

android:id="@+id/editTextNumber2"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_below="@id/editTextNumber1"

android:hint="Enter Number 2"

android:inputType="numberDecimal" />

<Button

android:id="@+id/buttonPower"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_below="@id/editTextNumber2"

android:text="Calculate Power" />

<Button

android:id="@+id/buttonAverage"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_below="@id/buttonPower"

android:text="Calculate Average" />

</RelativeLayout>

//MainActivity.java

import android.content.Intent;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.EditText;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

EditText editTextNumber1, editTextNumber2;

Button buttonPower, buttonAverage;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

editTextNumber1 = findViewById(R.id.editTextNumber1);

editTextNumber2 = findViewById(R.id.editTextNumber2);

buttonPower = findViewById(R.id.buttonPower);

buttonAverage = findViewById(R.id.buttonAverage);

buttonPower.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

double num1 = Double.parseDouble(editTextNumber1.getText().toString());

double num2 = Double.parseDouble(editTextNumber2.getText().toString());

double result = Math.pow(num1, num2);

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

intent.putExtra("result", result);

startActivity(intent);

}

});

buttonAverage.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

double num1 = Double.parseDouble(editTextNumber1.getText().toString());

double num2 = Double.parseDouble(editTextNumber2.getText().toString());

double result = (num1 + num2) / 2;

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

intent.putExtra("result", result);

startActivity(intent);

}

});

}

}

//activity\_result.xml

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

android:id="@+id/textViewResult"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_gravity="center"

android:textSize="24sp" />

//activity\_result.java

import android.os.Bundle;

import android.widget.TextView;

import androidx.appcompat.app.AppCompatActivity;

public class ResultActivity extends AppCompatActivity {

TextView textViewResult;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_result);

textViewResult = findViewById(R.id.textViewResult);

double result = getIntent().getDoubleExtra("result", 0);

textViewResult.setText("Result: " + result);

}

}

//android manifest.xml

<activity android:name=".MainActivity">

<intent-filter>

<action android:name="android.intent.action.MAIN" />

<category android:name="android.intent.category.LAUNCHER" />

</intent-filter>

</activity>

<activity android:name=".ResultActivity" />

Q.2] Create an Android Application to perform following string operation according to user selection of radio button.

Sol

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

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:orientation="vertical"

android:padding="16dp">

<EditText

android:id="@+id/editTextString"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:hint="Enter a string" />

<RadioGroup

android:id="@+id/radioGroupOptions"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_marginTop="16dp"

android:orientation="vertical">

<RadioButton

android:id="@+id/radioButtonReverse"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Reverse" />

<RadioButton

android:id="@+id/radioButtonUpperCase"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Convert to Uppercase" />

<RadioButton

android:id="@+id/radioButtonLowerCase"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Convert to Lowercase" />

</RadioGroup>

<Button

android:id="@+id/buttonPerformOperation"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_gravity="center"

android:layout\_marginTop="16dp"

android:text="Perform Operation" />

<TextView

android:id="@+id/textViewResult"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginTop="16dp"

android:text=""

android:textSize="18sp" />

</LinearLayout>

//Main\_activity.java

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.EditText;

import android.widget.RadioButton;

import android.widget.RadioGroup;

import android.widget.TextView;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

EditText editTextString;

RadioGroup radioGroupOptions;

Button buttonPerformOperation;

TextView textViewResult;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

editTextString = findViewById(R.id.editTextString);

radioGroupOptions = findViewById(R.id.radioGroupOptions);

buttonPerformOperation = findViewById(R.id.buttonPerformOperation);

textViewResult = findViewById(R.id.textViewResult);

buttonPerformOperation.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

performOperation();

}

});

}

private void performOperation() {

String inputString = editTextString.getText().toString();

int selectedOptionId = radioGroupOptions.getCheckedRadioButtonId();

RadioButton selectedOption = findViewById(selectedOptionId);

if (inputString.isEmpty()) {

textViewResult.setText("Please enter a string.");

return;

}

switch (selectedOption.getId()) {

case R.id.radioButtonReverse:

String reversedString = new StringBuilder(inputString).reverse().toString();

textViewResult.setText("Reversed string: " + reversedString);

break;

case R.id.radioButtonUpperCase:

String upperCaseString = inputString.toUpperCase();

textViewResult.setText("Uppercase string: " + upperCaseString);

break;

case R.id.radioButtonLowerCase:

String lowerCaseString = inputString.toLowerCase();

textViewResult.setText("Lowercase string: " + lowerCaseString);

break;

}

}

}

//activity\_manifiest.xml

<activity android:name=".MainActivity">

<intent-filter>

<action android:name="android.intent.action.MAIN" />

<category android:name="android.intent.category.LAUNCHER" />

</intent-filter>

</activity>

Slip 12

Q.1] Construct an Android app that toggles a light bulb ON and OFF when the user clicks on toggle button.

Sol

<?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="match\_parent">

<ImageView

android:id="@+id/lightBulb"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:src="@drawable/light\_off"

android:layout\_centerInParent="true"

android:contentDescription="Light Bulb" />

<ToggleButton

android:id="@+id/toggleButton"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:textOff="OFF"

android:textOn="ON"

android:layout\_below="@id/lightBulb"

android:layout\_centerHorizontal="true"

android:layout\_marginTop="16dp" />

</RelativeLayout>

//Main\_activity.java

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

import android.view.View;

import android.widget.ImageView;

import android.widget.ToggleButton;

public class MainActivity extends AppCompatActivity {

private ImageView lightBulb;

private ToggleButton toggleButton;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

lightBulb = findViewById(R.id.lightBulb);

toggleButton = findViewById(R.id.toggleButton);

// Set initial state of the light bulb

lightBulb.setImageResource(R.drawable.light\_off);

// Set toggle button listener

toggleButton.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

toggleLight();

}

});

}

private void toggleLight() {

if (toggleButton.isChecked()) {

// Turn on the light

lightBulb.setImageResource(R.drawable.light\_on);

} else {

// Turn off the light

lightBulb.setImageResource(R.drawable.light\_off);

}

}

}

//Android\_manifest.xml

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

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

package="com.example.lightbulb">

<application

android:allowBackup="true"

android:icon="@mipmap/ic\_launcher"

android:label="@string/app\_name"

android:roundIcon="@mipmap/ic\_launcher\_round"

android:supportsRtl="true"

android:theme="@style/AppTheme">

<activity android:name=".MainActivity">

<intent-filter>

<action android:name="android.intent.action.MAIN" />

<category android:name="android.intent.category.LAUNCHER" />

</intent-filter>

</activity>

</application>

</manifest>

Q2) Create an Android application which will ask the user to input his / her name. A message should display the two items concatenated in a label. Change the format of the label using radio buttons and check boxes for selection. The user can make the label text bold, underlined or italic as well as change its color. Also include buttons to display the message in the label, clear the text boxes as well as label. Finally exit.

Sol

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

xmlns:tools="http://schemas.android.com/tools"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

tools:context=".MainActivity">

<EditText

android:id="@+id/editTextName"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:hint="Enter your name"

android:layout\_margin="16dp"/>

<Button

android:id="@+id/buttonDisplay"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_below="@id/editTextName"

android:text="Display"

android:layout\_marginTop="16dp"

android:onClick="displayMessage"/>

<Button

android:id="@+id/buttonClear"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_below="@id/buttonDisplay"

android:text="Clear"

android:layout\_marginTop="16dp"

android:onClick="clearFields"/>

<TextView

android:id="@+id/textViewMessage"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_below="@id/buttonClear"

android:text=""

android:layout\_marginTop="16dp"/>

<!-- Radio buttons for text formatting -->

<RadioGroup

android:id="@+id/radioGroupFormat"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_below="@id/textViewMessage"

android:layout\_marginTop="16dp">

<RadioButton

android:id="@+id/radioButtonBold"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Bold"/>

<RadioButton

android:id="@+id/radioButtonItalic"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Italic"/>

<RadioButton

android:id="@+id/radioButtonUnderline"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Underline"/>

</RadioGroup>

<!-- Checkboxes for text color -->

<CheckBox

android:id="@+id/checkBoxRed"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Red"

android:layout\_below="@id/radioGroupFormat"

android:layout\_marginTop="16dp"/>

<CheckBox

android:id="@+id/checkBoxBlue"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Blue"

android:layout\_below="@id/checkBoxRed"

android:layout\_marginTop="16dp"/>

<CheckBox

android:id="@+id/checkBoxGreen"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Green"

android:layout\_below="@id/checkBoxBlue"

android:layout\_marginTop="16dp"/>

</RelativeLayout>

import android.graphics.Color;

import android.graphics.Typeface;

import android.os.Bundle;

import android.view.View;

import android.widget.CheckBox;

import android.widget.EditText;

import android.widget.RadioButton;

import android.widget.RadioGroup;

import android.widget.TextView;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

EditText editTextName;

TextView textViewMessage;

RadioGroup radioGroupFormat;

RadioButton radioButtonBold, radioButtonItalic, radioButtonUnderline;

CheckBox checkBoxRed, checkBoxBlue, checkBoxGreen;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

editTextName = findViewById(R.id.editTextName);

textViewMessage = findViewById(R.id.textViewMessage);

radioGroupFormat = findViewById(R.id.radioGroupFormat);

radioButtonBold = findViewById(R.id.radioButtonBold);

radioButtonItalic = findViewById(R.id.radioButtonItalic);

radioButtonUnderline = findViewById(R.id.radioButtonUnderline);

checkBoxRed = findViewById(R.id.checkBoxRed);

checkBoxBlue = findViewById(R.id.checkBoxBlue);

checkBoxGreen = findViewById(R.id.checkBoxGreen);

}

public void displayMessage(View view) {

String name = editTextName.getText().toString();

StringBuilder message = new StringBuilder(name);

// Apply text formatting based on selected radio button

int formatId = radioGroupFormat.getCheckedRadioButtonId();

if (formatId == R.id.radioButtonBold) {

textViewMessage.setTypeface(null, Typeface.BOLD);

} else if (formatId == R.id.radioButtonItalic) {

textViewMessage.setTypeface(null, Typeface.ITALIC);

} else if (formatId == R.id.radioButtonUnderline) {

textViewMessage.setPaintFlags(textViewMessage.getPaintFlags() | android.graphics.Paint.UNDERLINE\_TEXT\_FLAG);

}

// Apply text color based on selected checkboxes

int color = Color.BLACK;

if (checkBoxRed.isChecked()) {

color = Color.RED;

} else if (checkBoxBlue.isChecked()) {

color = Color.BLUE;

} else if (checkBoxGreen.isChecked()) {

color = Color.GREEN;

}

textViewMessage.setTextColor(color);

textViewMessage.setText(message.toString());

}

public void clearFields(View view) {

editTextName.setText("");

textViewMessage.setText("");

radioGroupFormat.clearCheck();

checkBoxRed.setChecked(false);

checkBoxBlue.setChecked(false);

checkBoxGreen.setChecked(false);

}

}

Slip 13

Q.1] Java android program to demonstrate Registration form with validation.

Sol

Activity\_main.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"

android:orientation="vertical"

tools:context=".MainActivity"

tools:ignore="HardcodedText">

<EditText

android:id="@+id/firstName"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_marginStart="16dp"

android:layout\_marginTop="16dp"

android:layout\_marginEnd="16dp"

android:hint="First Name"

android:inputType="text" />

<EditText

android:id="@+id/lastName"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_marginStart="16dp"

android:layout\_marginTop="16dp"

android:layout\_marginEnd="16dp"

android:hint="Last Name"

android:inputType="text" />

<EditText

android:id="@+id/email"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_marginStart="16dp"

android:layout\_marginTop="16dp"

android:layout\_marginEnd="16dp"

android:hint="Email"

android:inputType="textEmailAddress" />

<EditText

android:id="@+id/password"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_marginStart="16dp"

android:layout\_marginTop="16dp"

android:layout\_marginEnd="16dp"

android:hint="Password"

android:inputType="textPassword" />

<LinearLayout

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_marginTop="8dp"

android:gravity="end"

android:orientation="horizontal">

<Button

android:id="@+id/cancelButton"

style="@style/Widget.AppCompat.Button.Borderless"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginEnd="4dp"

android:text="Register"

/>

</LinearLayout>

</LinearLayout>

**MainActivity**.java

package com.example.registation;

import android.annotation.SuppressLint;

import android.os.Bundle;

import android.app.Activity;

import android.content.Intent;

import android.view.Menu;

import android.view.View;

import android.widget.Button;

import android.widget.EditText;

public class MainActivity extends Activity {

EditText edtuser, edtpass;

Button btnLogin;

@SuppressLint("MissingInflatedId")

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

edtuser = (EditText) findViewById(R.id.firstName);

edtpass = (EditText) findViewById(R.id.lastName);

btnLogin = (Button) findViewById(R.id.cancelButton);

btnLogin.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View arg0) {

// TODO Auto-generated method stub

if (edtuser.getText().toString().trim().length() == 0) {

edtuser.setError("Username is not entered");

edtuser.requestFocus();

}

if (edtpass.getText().toString().trim().length() == 0) {

edtpass.setError("Password is not entered");

edtpass.requestFocus();

} else {

Intent it = new Intent(getApplicationContext(),

MainActivity.class);

startActivity(it);

}

}

});

}

}

Q.2] Write a Java Android Program to Demonstrate List View Activity with all operations Such as: Insert, Delete, Search

Sol

<?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="match\_parent">

<EditText

android:id="@+id/editTextNewItem"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:hint="Enter new item"

android:layout\_margin="16dp" />

<Button

android:id="@+id/buttonAdd"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Add"

android:layout\_below="@id/editTextNewItem"

android:layout\_alignParentEnd="true"

android:layout\_marginEnd="16dp"

android:layout\_marginTop="8dp" />

<ListView

android:id="@+id/listViewItems"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:layout\_below="@id/buttonAdd"

android:layout\_marginTop="16dp" />

</RelativeLayout>

import android.os.Bundle;

import android.text.TextUtils;

import android.view.View;

import android.widget.ArrayAdapter;

import android.widget.Button;

import android.widget.EditText;

import android.widget.ListView;

import android.widget.Toast;

import androidx.appcompat.app.AppCompatActivity;

import java.util.ArrayList;

public class MainActivity extends AppCompatActivity {

private EditText editTextNewItem;

private Button buttonAdd;

private ListView listViewItems;

private ArrayAdapter<String> adapter;

private ArrayList<String> itemList;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

editTextNewItem = findViewById(R.id.editTextNewItem);

buttonAdd = findViewById(R.id.buttonAdd);

listViewItems = findViewById(R.id.listViewItems);

itemList = new ArrayList<>();

adapter = new ArrayAdapter<>(this, android.R.layout.simple\_list\_item\_1, itemList);

listViewItems.setAdapter(adapter);

buttonAdd.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

addItemToList();

}

});

listViewItems.setOnItemClickListener((parent, view, position, id) -> {

deleteItemFromList(position);

});

}

private void addItemToList() {

String newItem = editTextNewItem.getText().toString().trim();

if (!TextUtils.isEmpty(newItem)) {

itemList.add(newItem);

adapter.notifyDataSetChanged();

editTextNewItem.setText("");

} else {

Toast.makeText(this, "Please enter an item", Toast.LENGTH\_SHORT).show();

}

}

private void deleteItemFromList(int position) {

itemList.remove(position);

adapter.notifyDataSetChanged();

}

}

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

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

package="com.example.listviewdemo">

<application

android:allowBackup="true"

android:icon="@mipmap/ic\_launcher"

android:label="@string/app\_name"

android:roundIcon="@mipmap/ic\_launcher\_round"

android:supportsRtl="true"

android:theme="@style/AppTheme">

<activity android:name=".MainActivity">

<intent-filter>

<action android:name="android.intent.action.MAIN" />

<category android:name="android.intent.category.LAUNCHER" />

</intent-filter>

</activity>

</application>

</manifest>

Slip 14

Q.1] Construct an Android application to accept a number and calculate and display Factorial of a given number in TextView

Sol

<?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="match\_parent">

<EditText

android:id="@+id/editTextNumber"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:hint="Enter a number"

android:inputType="number" />

<Button

android:id="@+id/buttonCalculate"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_below="@id/editTextNumber"

android:layout\_centerHorizontal="true"

android:layout\_marginTop="16dp"

android:text="Calculate Factorial" />

<TextView

android:id="@+id/textViewResult"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_below="@id/buttonCalculate"

android:layout\_centerHorizontal="true"

android:layout\_marginTop="16dp"

android:text="Factorial: "/>

</RelativeLayout>

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.EditText;

import android.widget.TextView;

import androidx.appcompat.app.AppCompatActivity

public class MainActivity extends AppCompatActivity {

EditText editTextNumber;

Button buttonCalculate;

TextView textViewResult;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

editTextNumber = findViewById(R.id.editTextNumber);

buttonCalculate = findViewById(R.id.buttonCalculate);

textViewResult = findViewById(R.id.textViewResult);

buttonCalculate.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

calculateFactorial();

}

});

}

private void calculateFactorial() {

String input = editTextNumber.getText().toString().trim();

if (input.isEmpty()) {

textViewResult.setText("Please enter a number.");

return;

}

int number = Integer.parseInt(input);

long factorial = 1;

for (int i = 1; i <= number; i++) {

factorial \*= i;

}

textViewResult.setText("Factorial: " + factorial);

}

}

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

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

package="com.example.factorialcalculator">

<application

android:allowBackup="true"

android:icon="@mipmap/ic\_launcher"

android:label="@string/app\_name"

android:roundIcon="@mipmap/ic\_launcher\_round"

android:supportsRtl="true"

android:theme="@style/AppTheme">

<activity android:name=".MainActivity">

<intent-filter>

<action android:name="android.intent.action.MAIN" />

<category android:name="android.intent.category.LAUNCHER" />

</intent-filter>

</activity>

</application>

</manifest>

Q2) Create an Android application, which show Login Form. After clicking LOGIN button display the “Login Successful…” message if username and password is same else display “Invalid Login” message in Toast Control.

Sol

<?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="match\_parent"

android:padding="16dp">

<EditText

android:id="@+id/editTextUsername"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:hint="Username"

android:inputType="text" />

<EditText

android:id="@+id/editTextPassword"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_below="@id/editTextUsername"

android:layout\_marginTop="16dp"

android:hint="Password"

android:inputType="textPassword" />

<Button

android:id="@+id/buttonLogin"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_below="@id/editTextPassword"

android:layout\_marginTop="16dp"

android:text="LOGIN" />

</RelativeLayout>

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.EditText;

import android.widget.Toast;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

private EditText editTextUsername, editTextPassword;

private Button buttonLogin;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

editTextUsername = findViewById(R.id.editTextUsername);

editTextPassword = findViewById(R.id.editTextPassword);

buttonLogin = findViewById(R.id.buttonLogin);

buttonLogin.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

loginUser();

}

});

}

private void loginUser() {

String username = editTextUsername.getText().toString().trim();

String password = editTextPassword.getText().toString().trim();

// Check if username and password are correct

if (username.equals("admin") && password.equals("password")) {

// Login successful

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

} else {

// Invalid login

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

}

}

}

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

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

package="com.example.loginform">

<application

android:allowBackup="true"

android:icon="@mipmap/ic\_launcher"

android:label="@string/app\_name"

android:roundIcon="@mipmap/ic\_launcher\_round"

android:supportsRtl="true"

android:theme="@style/AppTheme">

<activity android:name=".MainActivity">

<intent-filter>

<action android:name="android.intent.action.MAIN" />

<category android:name="android.intent.category.LAUNCHER" />

</intent-filter>

</activity>

</application>

</manifest>

Slip 15

Q1) Construct an Android application to accept two numbers in two EditText, with four buttons as ADD, SUB, DIV and MULT and display Result using Toast Control.

Sol

<?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="match\_parent"

android:padding="16dp">

<EditText

android:id="@+id/editTextNumber1"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:hint="Enter number 1"

android:inputType="numberDecimal" />

<EditText

android:id="@+id/editTextNumber2"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_below="@id/editTextNumber1"

android:layout\_marginTop="16dp"

android:hint="Enter number 2"

android:inputType="numberDecimal" />

<Button

android:id="@+id/buttonAdd"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_below="@id/editTextNumber2"

android:layout\_marginTop="16dp"

android:text="ADD" />

<Button

android:id="@+id/buttonSubtract"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_below="@id/buttonAdd"

android:layout\_marginTop="8dp"

android:text="SUB" />

<Button

android:id="@+id/buttonMultiply"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_below="@id/buttonSubtract"

android:layout\_marginTop="8dp"

android:text="MULT" />

<Button

android:id="@+id/buttonDivide"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_below="@id/buttonMultiply"

android:layout\_marginTop="8dp"

android:text="DIV" />

</RelativeLayout>

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.EditText;

import android.widget.Toast;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

EditText editTextNumber1, editTextNumber2;

Button buttonAdd, buttonSubtract, buttonMultiply, buttonDivide;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

editTextNumber1 = findViewById(R.id.editTextNumber1);

editTextNumber2 = findViewById(R.id.editTextNumber2);

buttonAdd = findViewById(R.id.buttonAdd);

buttonSubtract = findViewById(R.id.buttonSubtract);

buttonMultiply = findViewById(R.id.buttonMultiply);

buttonDivide = findViewById(R.id.buttonDivide);

buttonAdd.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

performOperation("+");

}

});

buttonSubtract.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

performOperation("-");

}

});

buttonMultiply.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

performOperation("\*");

}

});

buttonDivide.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

performOperation("/");

}

});

}

private void performOperation(String operator) {

try {

double num1 = Double.parseDouble(editTextNumber1.getText().toString());

double num2 = Double.parseDouble(editTextNumber2.getText().toString());

double result = 0;

switch (operator) {

case "+":

result = num1 + num2;

break;

case "-":

result = num1 - num2;

break;

case "\*":

result = num1 \* num2;

break;

case "/":

if (num2 != 0) {

result = num1 / num2;

} else {

Toast.makeText(MainActivity.this, "Cannot divide by zero", Toast.LENGTH\_SHORT).show();

return;

}

break;

}

Toast.makeText(MainActivity.this, "Result: " + result, Toast.LENGTH\_SHORT).show();

} catch (NumberFormatException e) {

Toast.makeText(MainActivity.this, "Please enter valid numbers", Toast.LENGTH\_SHORT).show();

}

}

}

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

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

package="com.example.calculatorapp">

<application

android:allowBackup="true"

android:icon="@mipmap/ic\_launcher"

android:label="@string/app\_name"

android:roundIcon="@mipmap/ic\_launcher\_round"

android:supportsRtl="true"

android:theme="@style/AppTheme">

<activity android:name=".MainActivity">

<intent-filter>

<action android:name="android.intent.action.MAIN" />

<category android:name="android.intent.category.LAUNCHER" />

</intent-filter>

</activity>

</application>

</manifest>

Q2) Construct a bank app to display different menu like withdraw, deposit etc.

Sol

<?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="match\_parent"

android:orientation="vertical"

android:padding="16dp">

<Button

android:id="@+id/buttonWithdraw"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:text="Withdraw Money" />

<Button

android:id="@+id/buttonDeposit"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_marginTop="16dp"

android:text="Deposit Money" />

</LinearLayout>

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.Toast;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

private int balance = 1000; // Initial balance

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

Button buttonWithdraw = findViewById(R.id.buttonWithdraw);

Button buttonDeposit = findViewById(R.id.buttonDeposit);

buttonWithdraw.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

withdrawMoney();

}

});

buttonDeposit.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

depositMoney();

}

});

}

private void withdrawMoney() {

if (balance >= 100) {

balance -= 100; // Withdraw $100

showToast("Withdraw successful. Current balance: $" + balance);

} else {

showToast("Insufficient balance. Cannot withdraw.");

}

}

private void depositMoney() {

balance += 100; // Deposit $100

showToast("Deposit successful. Current balance: $" + balance);

}

private void showToast(String message) {

Toast.makeText(this, message, Toast.LENGTH\_SHORT).show();

}

}

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

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

package="com.example.bankapp">

<application

android:allowBackup="true"

android:icon="@mipmap/ic\_launcher"

android:label="@string/app\_name"

android:roundIcon="@mipmap/ic\_launcher\_round"

android:supportsRtl="true"

android:theme="@style/AppTheme">

<activity android:name=".MainActivity">

<intent-filter>

<action android:name="android.intent.action.MAIN" />

<category android:name="android.intent.category.LAUNCHER" />

</intent-filter>

</activity>

</application>

</manifest>

Slip 16

Q1] Create a Simple Android Application Which Send ―Hello‖ message from one activity to another with help of Button (Use Intent).

Sol

//main\_activity.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="match\_parent"

android:padding="16dp">

<Button

android:id="@+id/buttonSendMessage"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_centerInParent="true"

android:text="Send Message" />

</RelativeLayout>

//main\_activity.java

import android.content.Intent;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

Button buttonSendMessage = findViewById(R.id.buttonSendMessage);

buttonSendMessage.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

sendMessage();

}

});

}

private void sendMessage() {

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

intent.putExtra("message", "Hello");

startActivity(intent);

}

}

//second\_main.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="match\_parent"

android:padding="16dp">

<TextView

android:id="@+id/textViewMessage"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_centerInParent="true"

android:text="Message will appear here"

android:textSize="20sp" />

</RelativeLayout>

//second\_main.java

import android.content.Intent;

import android.os.Bundle;

import android.widget.TextView;

import androidx.appcompat.app.AppCompatActivity;

public class SecondActivity extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_second);

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

// Get the message from the intent

Intent intent = getIntent();

if (intent != null) {

String message = intent.getStringExtra("message");

if (message != null) {

textViewMessage.setText(message);

}

}

}

}

//manifest.xml

<activity android:name=".MainActivity">

<intent-filter>

<action android:name="android.intent.action.MAIN" />

<category android:name="android.intent.category.LAUNCHER" />

</intent-filter>

</activity>

<activity android:name=".SecondActivity" />

Q2) ] Create an Android application, with two activity first activity will have an EditText and a Button where the user can enter player name and after clicking on button the entered name will be display in another Activity. Second activity has the BACK button to transition to first activity (Using Intent).

Sol

//activity\_main.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="match\_parent"

android:padding="16dp">

<EditText

android:id="@+id/editTextPlayerName"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:hint="Enter Player Name" />

<Button

android:id="@+id/buttonSubmit"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_below="@id/editTextPlayerName"

android:layout\_centerHorizontal="true"

android:layout\_marginTop="16dp"

android:text="Submit" />

</RelativeLayout>

//activity\_main.java

import android.content.Intent;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.EditText;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

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

Button buttonSubmit = findViewById(R.id.buttonSubmit);

buttonSubmit.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

String playerName = editTextPlayerName.getText().toString();

if (!playerName.isEmpty()) {

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

intent.putExtra("playerName", playerName);

startActivity(intent);

}

}

});

}

}

//second\_main.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="match\_parent"

android:padding="16dp">

<TextView

android:id="@+id/textViewPlayerName"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_centerInParent="true"

android:text="Player Name"

android:textSize="24sp" />

<Button

android:id="@+id/buttonBack"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_below="@id/textViewPlayerName"

android:layout\_centerHorizontal="true"

android:layout\_marginTop="16dp"

android:text="BACK" />

</RelativeLayout>

//second\_main.java

import android.content.Intent;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.TextView;

import androidx.appcompat.app.AppCompatActivity;

public class SecondActivity extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_second);

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

Button buttonBack = findViewById(R.id.buttonBack);

Intent intent = getIntent();

if (intent != null) {

String playerName = intent.getStringExtra("playerName");

textViewPlayerName.setText(playerName);

}

buttonBack.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

finish(); // Close the current activity and go back to the previous one

}

});

}

}

//manifest.xml

<activity android:name=".MainActivity">

<intent-filter>

<action android:name="android.intent.action.MAIN" />

<category android:name="android.intent.category.LAUNCHER" />

</intent-filter>

</activity>

<activity android:name=".SecondActivity" />

Slip 17

Q1] Write an Android Program to demonstrate Activity life Cycle.

Sol

//activity\_main.xml

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

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

xmlns:tools="http://schemas.android.com/tools"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

tools:context=".MainActivity">

<Button

android:id="@+id/button"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Go to Second Activity"

android:layout\_centerInParent="true"/>

</RelativeLayout>

//main.java

import android.content.Intent;

import android.os.Bundle;

import android.util.Log;

import android.view.View;

import android.widget.Button;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

private static final String TAG = "MainActivity";

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

Log.d(TAG, "onCreate");

Button button = findViewById(R.id.button);

button.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

startActivity(new Intent(MainActivity.this, SecondActivity.class));

}

});

}

@Override

protected void onStart() {

super.onStart();

Log.d(TAG, "onStart");

}

@Override

protected void onResume() {

super.onResume();

Log.d(TAG, "onResume");

}

@Override

protected void onPause() {

super.onPause();

Log.d(TAG, "onPause");

}

@Override

protected void onStop() {

super.onStop();

Log.d(TAG, "onStop");

}

@Override

protected void onDestroy() {

super.onDestroy();

Log.d(TAG, "onDestroy");

}

}

//second\_activity.xml

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

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

xmlns:tools="http://schemas.android.com/tools"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

tools:context=".SecondActivity">

<!-- Add your UI elements here -->

</RelativeLayout>

//second\_activity.java

import android.os.Bundle;

import android.util.Log;

import androidx.appcompat.app.AppCompatActivity;

public class SecondActivity extends AppCompatActivity {

private static final String TAG = "SecondActivity";

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_second);

Log.d(TAG, "onCreate");

}

@Override

protected void onStart() {

super.onStart();

Log.d(TAG, "onStart");

}

@Override

protected void onResume() {

super.onResume();

Log.d(TAG, "onResume");

}

@Override

protected void onPause() {

super.onPause();

Log.d(TAG, "onPause");

}

@Override

protected void onStop() {

super.onStop();

Log.d(TAG, "onStop");

}

@Override

protected void onDestroy() {

super.onDestroy();

Log.d(TAG, "onDestroy");

}

}

//manifest.xml

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

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

package="com.example.lifecycleactivity">

<application

android:allowBackup="true"

android:icon="@mipmap/ic\_launcher"

android:label="@string/app\_name"

android:roundIcon="@mipmap/ic\_launcher\_round"

android:supportsRtl="true"

android:theme="@style/AppTheme">

<activity android:name=".MainActivity">

<intent-filter>

<action android:name="android.intent.action.MAIN" />

<category android:name="android.intent.category.LAUNCHER" />

</intent-filter>

</activity>

<activity android:name=".SecondActivity" />

</application>

</manifest>

Q2) Write a PhoneGap application to create a contact.

Options are: • Searching for Contacts • Cloning Contacts • Removing Contacts.

Sol

<!DOCTYPE html>

<html>

<head>

<title>Contact Manager</title>

<script type="text/javascript" src="cordova.js"></script>

<script type="text/javascript" src="js/index.js"></script>

</head>

<body>

<h1>Contact Manager</h1>

<button onclick="addContact()">Add Contact</button>

<button onclick="searchContacts()">Search Contacts</button>

<button onclick="cloneContact()">Clone Contact</button>

<button onclick="removeContact()">Remove Contact</button>

</body>

</html>

document.addEventListener('deviceready', onDeviceReady, false);

function onDeviceReady() {

console.log('Device is ready');

}

function addContact() {

var contact = navigator.contacts.create();

contact.displayName = "John Doe";

var name = new ContactName();

name.givenName = "John";

name.familyName = "Doe";

contact.name = name;

var phoneNumbers = [];

phoneNumbers[0] = new ContactField('mobile', '1234567890', true);

contact.phoneNumbers = phoneNumbers;

contact.save(function() {

alert('Contact added successfully');

}, function(err) {

alert('Error adding contact: ' + err);

});

}

function searchContacts() {

var options = new ContactFindOptions();

options.filter = "John"; // search for contacts with the name "John"

options.multiple = true; // return multiple results

navigator.contacts.find(['displayName', 'name'], function(contacts) {

if (contacts.length > 0) {

var contactList = '';

contacts.forEach(function(contact) {

contactList += contact.displayName + '\n';

});

alert('Contacts found:\n' + contactList);

} else {

alert('No contacts found');

}

}, function(err) {

alert('Error searching contacts: ' + err);

}, options);

}

function cloneContact() {

// Assume you have already fetched a contact and stored it in a variable called 'originalContact'

var clonedContact = originalContact.clone();

clonedContact.displayName = "Cloned Contact";

clonedContact.save(function() {

alert('Contact cloned successfully');

}, function(err) {

alert('Error cloning contact: ' + err);

});

}

function removeContact() {

// Assume you have already fetched a contact and stored it in a variable called 'contactToRemove'

contactToRemove.remove(function() {

alert('Contact removed successfully');

}, function(err) {

alert('Error removing contact: ' + err);

});

}

Slip 18

Q1) Create an Android Application that will change color of the screen and change the font size of text view using xml.

Sol

<!-- activity\_main.xml -->

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

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

xmlns:tools="http://schemas.android.com/tools"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

tools:context=".MainActivity">

<TextView

android:id="@+id/textView"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Hello, Change Me!"

android:textSize="24sp"

android:layout\_centerInParent="true" />

<TextView

android:id="@+id/textView"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Hello, Change Me!"

android:textSize="24sp"

android:layout\_centerHorizontal="true"

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

<Button

android:id="@+id/changeButton"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_below="@id/textView"

android:layout\_centerHorizontal="true"

android:text="Change Color and Font Size" />

</RelativeLayout>

// MainActivity.java

package com.example.colorchanger;

import androidx.appcompat.app.AppCompatActivity;

import android.graphics.Color;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.TextView;

public class MainActivity extends AppCompatActivity {

private TextView textView;

private Button changeButton;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

textView = findViewById(R.id.textView);

changeButton = findViewById(R.id.changeButton);

changeButton.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

// Change background color

getWindow().getDecorView().setBackgroundColor(Color.BLUE);

// Change font size

textView.setTextSize(36);

}

});

}

}

Q2] Create table Project (id, name, dept, city). Create Application to perform the following operations. (using SQLite database) i] Add at least 5 records. ii] Display all the records.

Sol

// Create DBhelper.java Class

import android.content.Context;

import android.database.sqlite.SQLiteDatabase;

import android.database.sqlite.SQLiteOpenHelper;

public class DBHelper extends SQLiteOpenHelper {

private static final int DATABASE\_VERSION = 1;

private static final String DATABASE\_NAME = "projectDB";

private static final String TABLE\_NAME = "Project";

private static final String KEY\_ID = "id";

private static final String KEY\_NAME = "name";

private static final String KEY\_DEPT = "dept";

private static final String KEY\_CITY = "city";

public DBHelper(Context context) {

super(context, DATABASE\_NAME, null, DATABASE\_VERSION);

}

@Override

public void onCreate(SQLiteDatabase db) {

String CREATE\_PROJECT\_TABLE = "CREATE TABLE " + TABLE\_NAME + "("

+ KEY\_ID + " INTEGER PRIMARY KEY,"

+ KEY\_NAME + " TEXT,"

+ KEY\_DEPT + " TEXT,"

+ KEY\_CITY + " TEXT" + ")";

db.execSQL(CREATE\_PROJECT\_TABLE);

}

@Override

public void onUpgrade(SQLiteDatabase db, int oldVersion, int newVersion) {

db.execSQL("DROP TABLE IF EXISTS " + TABLE\_NAME);

onCreate(db);

}

}

//activity\_main.xml

<!-- activity\_main.xml -->

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

xmlns:tools="http://schemas.android.com/tools"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

tools:context=".MainActivity">

<Button

android:id="@+id/btnAddRecord"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Add Records"

android:layout\_centerHorizontal="true"

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

<Button

android:id="@+id/btnDisplayRecords"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Display Records"

android:layout\_below="@id/btnAddRecord"

android:layout\_centerHorizontal="true"

android:layout\_marginTop="20dp"/>

</RelativeLayout>

//main\_activity.java

import android.content.ContentValues;

import android.database.Cursor;

import android.database.sqlite.SQLiteDatabase;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.Toast;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

private Button btnAddRecord, btnDisplayRecords;

private DBHelper dbHelper;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

btnAddRecord = findViewById(R.id.btnAddRecord);

btnDisplayRecords = findViewById(R.id.btnDisplayRecords);

dbHelper = new DBHelper(this);

btnAddRecord.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

addRecords();

}

});

btnDisplayRecords.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

displayRecords();

}

});

}

private void addRecords() {

SQLiteDatabase db = dbHelper.getWritableDatabase();

ContentValues values = new ContentValues();

// Adding records

for (int i = 1; i <= 5; i++) {

values.put("name", "Project " + i);

values.put("dept", "Dept " + i);

values.put("city", "City " + i);

db.insert("Project", null, values);

}

db.close();

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

}

private void displayRecords() {

SQLiteDatabase db = dbHelper.getReadableDatabase();

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

StringBuilder stringBuilder = new StringBuilder();

while (cursor.moveToNext()) {

String id = cursor.getString(cursor.getColumnIndex("id"));

String name = cursor.getString(cursor.getColumnIndex("name"));

String dept = cursor.getString(cursor.getColumnIndex("dept"));

String city = cursor.getString(cursor.getColumnIndex("city"));

stringBuilder.append("ID: ").append(id).append(", Name: ").append(name)

.append(", Dept: ").append(dept).append(", City: ").append(city)

.append("\n");

}

cursor.close();

db.close();

Toast.makeText(this, stringBuilder.toString(), Toast.LENGTH\_LONG).show();

}

}

Slip 19

Q1] Write an Android Program to Change the Image Displayed on the Screen.

Sol

Activity\_main.xml

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

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

xmlns:tools="http://schemas.android.com/tools"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

tools:context=".MainActivity" >

<LinearLayout

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:orientation="horizontal"

android:paddingBottom="40px"

android:weightSum="2" >

<RadioGroup

android:id="@+id/rg1"

android:layout\_width="wrap\_content"

android:layout\_height="match\_parent"

android:layout\_weight="1"

android:orientation="vertical" >

<RadioButton

android:id="@+id/radioButton1"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_alignParentRight="true"

android:layout\_alignParentTop="true"

android:layout\_marginTop="20dp"

android:text="Image2" />

<RadioButton

android:id="@+id/radioButton2"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_alignBaseline="@+id/radioButton1"

android:layout\_alignBottom="@+id/radioButton1"

android:layout\_alignParentLeft="true"

android:text="Image1" />

</RadioGroup>

<RadioGroup

android:id="@+id/rg2"

android:layout\_width="wrap\_content"

android:layout\_height="match\_parent"

android:layout\_weight="1"

android:orientation="vertical" >

<RadioButton

android:id="@+id/radioButton3"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginTop="30dp"

android:text="Image3" />

<RadioButton

android:id="@+id/radioButton4"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_alignBaseline="@+id/radioButton3"

android:layout\_alignBottom="@+id/radioButton3"

android:layout\_alignParentRight="true"

android:text="Image4" />

</RadioGroup>

</LinearLayout>

<Button

android:id="@+id/button1"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_alignParentLeft="true"

android:layout\_alignParentRight="true"

android:layout\_centerVertical="true"

android:text="Change Image" />

<ImageView

android:id="@+id/imageView1"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_alignLeft="@+id/button1"

android:layout\_alignParentBottom="true"

android:layout\_alignParentRight="true"

android:layout\_below="@+id/button1"

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

</RelativeLayout>

MainActivity.java

package com.example.pra18;

import android.app.Activity;

import android.graphics.Typeface;

import android.os.Bundle;

import android.renderscript.Type;

import android.view.Gravity;

import android.view.View;

import android.widget.Button;

import android.widget.EditText;

import android.widget.ImageView;

import android.widget.RadioGroup;

import android.widget.RadioGroup.OnCheckedChangeListener;

import android.widget.TextView;

public class MainActivity extends Activity implements

OnCheckedChangeListener {

RadioGroup group1, group2;

Button gen;

ImageView img;

@Override

protected void onCreate(Bundle savedInstanceState) {

// TODO Auto-generated method stub

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

group1 = (RadioGroup) findViewById(R.id.rg1);

group1.setOnCheckedChangeListener((OnCheckedChangeListener) this);

group2 = (RadioGroup) findViewById(R.id.rg2);

group2.setOnCheckedChangeListener((OnCheckedChangeListener) this);

img = (ImageView) findViewById(R.id.imageView1);

// oncheckedChanged function

gen = (Button) findViewById(R.id.button1);

gen.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

// TODO Auto-generated method stub

}

});

}

@Override

public void onCheckedChanged(RadioGroup group, int checkedId) {

// TODO Auto-generated method stub

switch (checkedId) {

case R.id.radioButton1:

img.setImageResource(R.drawable.image4);

break;

case R.id.radioButton2:

img.setImageResource(R.drawable.image5);

break;

case R.id.radioButton3:

img.setImageResource(R.drawable.image6);

break;

case R.id.radioButton4:

img.setImageResource(R.drawable.image7);

break;

default:

break;

}

} }

Q2] Construct an Android Application to create two option menu as Find Factorial and Find Sum of Digits. Accept a number and calculate Factorial and Sum of Digits of a given number by clicking Menu.

Sol

<!-- activity\_main.xml -->

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

xmlns:tools="http://schemas.android.com/tools"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

tools:context=".MainActivity">

<EditText

android:id="@+id/editTextNumber"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:hint="Enter a number"

android:inputType="number"

android:layout\_margin="16dp"/>

<Button

android:id="@+id/buttonCalculate"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Calculate"

android:layout\_below="@id/editTextNumber"

android:layout\_centerHorizontal="true"

android:layout\_marginTop="16dp"/>

<TextView

android:id="@+id/textViewResult"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text=""

android:textSize="20sp"

android:layout\_below="@id/buttonCalculate"

android:layout\_centerHorizontal="true"

android:layout\_marginTop="16dp"/>

</RelativeLayout>

import androidx.annotation.NonNull;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

import android.view.Menu;

import android.view.MenuItem;

import android.view.View;

import android.widget.Button;

import android.widget.EditText;

import android.widget.TextView;

public class MainActivity extends AppCompatActivity {

private EditText editTextNumber;

private Button buttonCalculate;

private TextView textViewResult;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

editTextNumber = findViewById(R.id.editTextNumber);

buttonCalculate = findViewById(R.id.buttonCalculate);

textViewResult = findViewById(R.id.textViewResult);

buttonCalculate.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

calculate();

}

});

}

private void calculate() {

int number = Integer.parseInt(editTextNumber.getText().toString());

int result = 0;

// Calculate factorial

if (selectedOption == R.id.menuFactorial) {

result = factorial(number);

}

// Calculate sum of digits

else if (selectedOption == R.id.menuSumOfDigits) {

result = sumOfDigits(number);

}

textViewResult.setText(String.valueOf(result));

}

private int factorial(int n) {

if (n == 0 || n == 1)

return 1;

return n \* factorial(n - 1);

}

private int sumOfDigits(int n) {

int sum = 0;

while (n > 0) {

sum += n % 10;

n /= 10;

}

return sum;

}

// Options menu

@Override

public boolean onCreateOptionsMenu(Menu menu) {

getMenuInflater().inflate(R.menu.main\_menu, menu);

return true;

}

// Handle option selection

@Override

public boolean onOptionsItemSelected(@NonNull MenuItem item) {

switch (item.getItemId()) {

case R.id.menuFactorial:

selectedOption = R.id.menuFactorial;

break;

case R.id.menuSumOfDigits:

selectedOption = R.id.menuSumOfDigits;

break;

}

return super.onOptionsItemSelected(item);

}

private int selectedOption = -1;

}

//main\_menu.xml in res/menu

<!-- main\_menu.xml -->

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

<item

android:id="@+id/menuFactorial"

android:title="Find Factorial"/>

<item

android:id="@+id/menuSumOfDigits"

android:title="Find Sum of Digits"/>

</menu>

Slip 20

Q1] Write an application to accept two numbers from the user and displays them. But Reject input if both numbers are greater than 20 and asks for two new numbers.

Sol

<!-- activity\_main.xml -->

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

xmlns:tools="http://schemas.android.com/tools"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

tools:context=".MainActivity">

<EditText

android:id="@+id/editTextNumber1"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:hint="Enter number 1"

android:inputType="number"

android:layout\_centerHorizontal="true"

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

<EditText

android:id="@+id/editTextNumber2"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:hint="Enter number 2"

android:inputType="number"

android:layout\_below="@id/editTextNumber1"

android:layout\_centerHorizontal="true"

android:layout\_marginTop="20dp"/>

<Button

android:id="@+id/buttonSubmit"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Submit"

android:layout\_below="@id/editTextNumber2"

android:layout\_centerHorizontal="true"

android:layout\_marginTop="20dp"/>

</RelativeLayout>

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.EditText;

import android.widget.Toast;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

private EditText editTextNumber1, editTextNumber2;

private Button buttonSubmit;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

editTextNumber1 = findViewById(R.id.editTextNumber1);

editTextNumber2 = findViewById(R.id.editTextNumber2);

buttonSubmit = findViewById(R.id.buttonSubmit);

buttonSubmit.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

submitNumbers();

}

});

}

private void submitNumbers() {

int number1 = Integer.parseInt(editTextNumber1.getText().toString());

int number2 = Integer.parseInt(editTextNumber2.getText().toString());

if (number1 > 20 && number2 > 20) {

// Both numbers are greater than 20

Toast.makeText(this, "Both numbers cannot be greater than 20. Please enter new numbers.", Toast.LENGTH\_LONG).show();

editTextNumber1.setText("");

editTextNumber2.setText("");

return;

}

// Display the numbers

String message = "Number 1: " + number1 + "\nNumber 2: " + number2;

Toast.makeText(this, message, Toast.LENGTH\_SHORT).show();

}

}

Q2] Java Android Program to send email with attachment.

Sol

<?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="wrap\_content"

android:orientation="vertical"

android:padding="4dp"

tools:context=".MainActivity">

<EditText

android:id="@+id/etTo"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_margin="5dp"

android:hint="Receiver's Email Address!"

android:inputType="textEmailAddress"

android:singleLine="true" />

<EditText

android:id="@+id/etSubject"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_margin="5dp"

android:hint="Enter Subject"

android:singleLine="true" />

<EditText

android:id="@+id/etMessage"

android:layout\_width="match\_parent"

android:layout\_height="200dp"

android:layout\_margin="5dp"

android:gravity="top|start"

android:hint="Compose Email"

android:inputType="textMultiLine" />

<RelativeLayout

android:layout\_width="match\_parent"

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

<Button

android:id="@+id/btSend"

android:layout\_width="80dp"

android:layout\_height="50dp"

android:layout\_margin="5dp"

android:text="Send" />

<Button

android:id="@+id/btAttachment"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_alignParentEnd="true"

android:text="attachment" />

</RelativeLayout>

<TextView

android:id="@+id/tvAttachment"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:drawableStart="@drawable/ic\_attach"

android:visibility="gone" />

</LinearLayout>

Package.com.example.practical22;

import android.app.Activity;

import android.content.Intent;

import android.net.Uri;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.EditText;

import android.widget.TextView;

import android.widget.Toast;

public class MainActivity extends Activity {

EditText etEmail;

EditText etSubject;

EditText etMessage;

Button Send;

Button attachment;

TextView tvAttachment;

String email;

String subject;

String message;

Uri URI = null;

private static final int PICK\_FROM\_GALLERY = 101;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

etEmail = findViewById(R.id.etTo);

etSubject = findViewById(R.id.etSubject);

etMessage = findViewById(R.id.etMessage);

attachment = findViewById(R.id.btAttachment);

tvAttachment = findViewById(R.id.tvAttachment);

Send = findViewById(R.id.btSend);

Send.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

sendEmail();

}

});

//attachment button listener

attachment.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

openFolder();

}

});

}

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

if (requestCode == PICK\_FROM\_GALLERY && resultCode == RESULT\_OK) {

URI = data.getData();

tvAttachment.setText(URI.getLastPathSegment());

tvAttachment.setVisibility(View.VISIBLE);

}

}

public void sendEmail() {

try {

email = etEmail.getText().toString();

subject = etSubject.getText().toString();

message = etMessage.getText().toString();

final Intent emailIntent = new Intent(android.content.Intent.ACTION\_SEND);

emailIntent.setType("plain/text");

emailIntent.putExtra(android.content.Intent.EXTRA\_EMAIL, new String[]{email});

emailIntent.putExtra(android.content.Intent.EXTRA\_SUBJECT, subject);

if (URI != null) {

emailIntent.putExtra(Intent.EXTRA\_STREAM, URI);

}

emailIntent.putExtra(android.content.Intent.EXTRA\_TEXT, message);

this.startActivity(Intent.createChooser(emailIntent, "Sending email..."));

} catch (Throwable t) {

Toast.makeText(this, "Request failed try again: "+ t.toString(), Toast.LENGTH\_LONG).show();

}

}

public void openFolder() {

Intent intent = new Intent();

intent.setType("image/\*");

intent.setAction(Intent.ACTION\_GET\_CONTENT);

intent.putExtra("return-data", true);

startActivityForResult(Intent.createChooser(intent, "Complete action using"), PICK\_FROM\_GALLERY);

}

}

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

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

xmlns:tools="http://schemas.android.com/tools"

package="com.example.practical24">

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

<uses-permission android:name="android.permission.READ\_EXTERNAL\_STORAGE" />

<uses-permission android:name="android.permission.READ\_INTERNAL\_STORAGE" />

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

<application

android:allowBackup="true"

android:dataExtractionRules="@xml/data\_extraction\_rules"

android:fullBackupContent="@xml/backup\_rules"

android:icon="@mipmap/ic\_launcher"

android:label="@string/app\_name"

android:roundIcon="@mipmap/ic\_launcher\_round"

android:supportsRtl="true"

android:theme="@style/Theme.Practical24"

tools:targetApi="31">

<activity

android:name=".MainActivity"

android:exported="true">

<intent-filter>

<action android:name="android.intent.action.MAIN" />

<category android:name="android.intent.category.LAUNCHER" />

</intent-filter>

</activity>

</application>

</manifest>

Slip 21

Q.1] Write an Android Program to demonstrate Activity life Cycle

Sol

//activity\_main.xml

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

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

xmlns:tools="http://schemas.android.com/tools"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

tools:context=".MainActivity">

<Button

android:id="@+id/button"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Go to Second Activity"

android:layout\_centerInParent="true"/>

</RelativeLayout>

//main.java

import android.content.Intent;

import android.os.Bundle;

import android.util.Log;

import android.view.View;

import android.widget.Button;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

private static final String TAG = "MainActivity";

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

Log.d(TAG, "onCreate");

Button button = findViewById(R.id.button);

button.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

startActivity(new Intent(MainActivity.this, SecondActivity.class));

}

});

}

@Override

protected void onStart() {

super.onStart();

Log.d(TAG, "onStart");

}

@Override

protected void onResume() {

super.onResume();

Log.d(TAG, "onResume");

}

@Override

protected void onPause() {

super.onPause();

Log.d(TAG, "onPause");

}

@Override

protected void onStop() {

super.onStop();

Log.d(TAG, "onStop");

}

@Override

protected void onDestroy() {

super.onDestroy();

Log.d(TAG, "onDestroy");

}

}

//second\_activity.xml

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

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

xmlns:tools="http://schemas.android.com/tools"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

tools:context=".SecondActivity">

<!-- Add your UI elements here -->

</RelativeLayout>

//second\_activity.java

import android.os.Bundle;

import android.util.Log;

import androidx.appcompat.app.AppCompatActivity;

public class SecondActivity extends AppCompatActivity {

private static final String TAG = "SecondActivity";

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_second);

Log.d(TAG, "onCreate");

}

@Override

protected void onStart() {

super.onStart();

Log.d(TAG, "onStart");

}

@Override

protected void onResume() {

super.onResume();

Log.d(TAG, "onResume");

}

@Override

protected void onPause() {

super.onPause();

Log.d(TAG, "onPause");

}

@Override

protected void onStop() {

super.onStop();

Log.d(TAG, "onStop");

}

@Override

protected void onDestroy() {

super.onDestroy();

Log.d(TAG, "onDestroy");

}

}

//manifest.xml

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

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

package="com.example.lifecycleactivity">

<application

android:allowBackup="true"

android:icon="@mipmap/ic\_launcher"

android:label="@string/app\_name"

android:roundIcon="@mipmap/ic\_launcher\_round"

android:supportsRtl="true"

android:theme="@style/AppTheme">

<activity android:name=".MainActivity">

<intent-filter>

<action android:name="android.intent.action.MAIN" />

<category android:name="android.intent.category.LAUNCHER" />

</intent-filter>

</activity>

<activity android:name=".SecondActivity" />

</application>

</manifest>

Q2) Create an Android Application that writes data to the SD Card

Sol

<!-- activity\_main.xml -->

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

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

xmlns:tools="http://schemas.android.com/tools"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:padding="16dp"

tools:context=".MainActivity">

<TextView

android:id="@+id/textView"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Writing Data to SD Card"

android:textSize="24sp"

android:layout\_centerHorizontal="true"

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

</RelativeLayout>

import android.os.Bundle;

import android.os.Environment;

import android.widget.Toast;

import androidx.appcompat.app.AppCompatActivity;

import java.io.File;

import java.io.FileOutputStream;

import java.io.IOException;

public class MainActivity extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

// Check if external storage is available

if (isExternalStorageWritable()) {

// Write data to external storage

writeDataToExternalStorage();

} else {

Toast.makeText(this, "External storage not available", Toast.LENGTH\_SHORT).show();

}

}

private boolean isExternalStorageWritable() {

String state = Environment.getExternalStorageState();

return Environment.MEDIA\_MOUNTED.equals(state);

}

private void writeDataToExternalStorage() {

File externalStorageDir = Environment.getExternalStorageDirectory();

File file = new File(externalStorageDir, "example.txt");

try {

FileOutputStream outputStream = new FileOutputStream(file);

outputStream.write("Hello, SD Card!".getBytes());

outputStream.close();

Toast.makeText(this, "Data written to SD Card", Toast.LENGTH\_SHORT).show();

} catch (IOException e) {

e.printStackTrace();

Toast.makeText(this, "Error writing data to SD Card", Toast.LENGTH\_SHORT).show();

}

}

}

//manifest file

<uses-permission android:name="android.permission.WRITE\_EXTERNAL\_STORAGE" />

Slip 22

Q.1] Write an Java Android Program to Change the Image on the Screen

Sol

Activity\_main.xml

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

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

xmlns:tools="http://schemas.android.com/tools"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

tools:context=".MainActivity" >

<LinearLayout

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:orientation="horizontal"

android:paddingBottom="40px"

android:weightSum="2" >

<RadioGroup

android:id="@+id/rg1"

android:layout\_width="wrap\_content"

android:layout\_height="match\_parent"

android:layout\_weight="1"

android:orientation="vertical" >

<RadioButton

android:id="@+id/radioButton1"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_alignParentRight="true"

android:layout\_alignParentTop="true"

android:layout\_marginTop="20dp"

android:text="Image2" />

<RadioButton

android:id="@+id/radioButton2"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_alignBaseline="@+id/radioButton1"

android:layout\_alignBottom="@+id/radioButton1"

android:layout\_alignParentLeft="true"

android:text="Image1" />

</RadioGroup>

<RadioGroup

android:id="@+id/rg2"

android:layout\_width="wrap\_content"

android:layout\_height="match\_parent"

android:layout\_weight="1"

android:orientation="vertical" >

<RadioButton

android:id="@+id/radioButton3"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginTop="30dp"

android:text="Image3" />

<RadioButton

android:id="@+id/radioButton4"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_alignBaseline="@+id/radioButton3"

android:layout\_alignBottom="@+id/radioButton3"

android:layout\_alignParentRight="true"

android:text="Image4" />

</RadioGroup>

</LinearLayout>

<Button

android:id="@+id/button1"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_alignParentLeft="true"

android:layout\_alignParentRight="true"

android:layout\_centerVertical="true"

android:text="Change Image" />

<ImageView

android:id="@+id/imageView1"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_alignLeft="@+id/button1"

android:layout\_alignParentBottom="true"

android:layout\_alignParentRight="true"

android:layout\_below="@+id/button1"

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

</RelativeLayout>

MainActivity.java

package com.example.pra18;

import android.app.Activity;

import android.graphics.Typeface;

import android.os.Bundle;

import android.renderscript.Type;

import android.view.Gravity;

import android.view.View;

import android.widget.Button;

import android.widget.EditText;

import android.widget.ImageView;

import android.widget.RadioGroup;

import android.widget.RadioGroup.OnCheckedChangeListener;

import android.widget.TextView;

public class MainActivity extends Activity implements

OnCheckedChangeListener {

RadioGroup group1, group2;

Button gen;

ImageView img;

@Override

protected void onCreate(Bundle savedInstanceState) {

// TODO Auto-generated method stub

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

group1 = (RadioGroup) findViewById(R.id.rg1);

group1.setOnCheckedChangeListener((OnCheckedChangeListener) this);

group2 = (RadioGroup) findViewById(R.id.rg2);

group2.setOnCheckedChangeListener((OnCheckedChangeListener) this);

img = (ImageView) findViewById(R.id.imageView1);

// oncheckedChanged function

gen = (Button) findViewById(R.id.button1);

gen.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

// TODO Auto-generated method stub

}

});

}

@Override

public void onCheckedChanged(RadioGroup group, int checkedId) {

// TODO Auto-generated method stub

switch (checkedId) {

case R.id.radioButton1:

img.setImageResource(R.drawable.image4);

break;

case R.id.radioButton2:

img.setImageResource(R.drawable.image5);

break;

case R.id.radioButton3:

img.setImageResource(R.drawable.image6);

break;

case R.id.radioButton4:

img.setImageResource(R.drawable.image7);

break;

default:

break;

}

} }

Q2) Perform following numeric operation according to user selection of radio button.

i)Odd or Even ii) Positive or Negative iii) Square

Sol

//main\_activity.xml

<!-- activity\_main.xml -->

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

xmlns:tools="http://schemas.android.com/tools"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

tools:context=".MainActivity">

<EditText

android:id="@+id/editTextNumber"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:hint="Enter a number"

android:inputType="number"

android:layout\_margin="16dp"/>

<RadioGroup

android:id="@+id/radioGroupOperation"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_below="@id/editTextNumber"

android:layout\_centerHorizontal="true"

android:layout\_marginTop="20dp">

<RadioButton

android:id="@+id/radioButtonOddEven"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Odd or Even" />

<RadioButton

android:id="@+id/radioButtonPositiveNegative"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Positive or Negative" />

<RadioButton

android:id="@+id/radioButtonSquare"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Square" />

</RadioGroup>

<Button

android:id="@+id/buttonPerformOperation"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Perform Operation"

android:layout\_below="@id/radioGroupOperation"

android:layout\_centerHorizontal="true"

android:layout\_marginTop="20dp"/>

<TextView

android:id="@+id/textViewResult"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text=""

android:textSize="20sp"

android:layout\_below="@id/buttonPerformOperation"

android:layout\_centerHorizontal="true"

android:layout\_marginTop="20dp"/>

</RelativeLayout>

//main\_activity.java

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.EditText;

import android.widget.RadioButton;

import android.widget.RadioGroup;

import android.widget.TextView;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

private EditText editTextNumber;

private RadioGroup radioGroupOperation;

private Button buttonPerformOperation;

private TextView textViewResult;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

editTextNumber = findViewById(R.id.editTextNumber);

radioGroupOperation = findViewById(R.id.radioGroupOperation);

buttonPerformOperation = findViewById(R.id.buttonPerformOperation);

textViewResult = findViewById(R.id.textViewResult);

buttonPerformOperation.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

performOperation();

}

});

}

private void performOperation() {

int number = Integer.parseInt(editTextNumber.getText().toString());

int selectedRadioButtonId = radioGroupOperation.getCheckedRadioButtonId();

switch (selectedRadioButtonId) {

case R.id.radioButtonOddEven:

checkOddEven(number);

break;

case R.id.radioButtonPositiveNegative:

checkPositiveNegative(number);

break;

case R.id.radioButtonSquare:

calculateSquare(number);

break;

}

}

private void checkOddEven(int number) {

if (number % 2 == 0) {

textViewResult.setText("The number is Even.");

} else {

textViewResult.setText("The number is Odd.");

}

}

private void checkPositiveNegative(int number) {

if (number > 0) {

textViewResult.setText("The number is Positive.");

} else if (number < 0) {

textViewResult.setText("The number is Negative.");

} else {

textViewResult.setText("The number is Zero.");

}

}

private void calculateSquare(int number) {

int square = number \* number;

textViewResult.setText("The square of the number is " + square);

}

}

Slip 23

Q. 1] Write a Java android program to demonstrate implicit intent.

Sol

<!-- activity\_main.xml -->

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

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

xmlns:tools="http://schemas.android.com/tools"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:padding="16dp"

tools:context=".MainActivity">

<Button

android:id="@+id/buttonOpenWebsite"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Open Website"

android:layout\_centerInParent="true"/>

</RelativeLayout>

import android.content.Intent;

import android.net.Uri;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

Button buttonOpenWebsite = findViewById(R.id.buttonOpenWebsite);

buttonOpenWebsite.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

openWebsite();

}

});

}

private void openWebsite() {

// Define the URL of the website you want to open

String websiteUrl = "https://www.example.com";

// Create an implicit intent with ACTION\_VIEW action and the URL

Intent intent = new Intent(Intent.ACTION\_VIEW, Uri.parse(websiteUrl));

// Check if there's an app available to handle the intent

if (intent.resolveActivity(getPackageManager()) != null) {

// Start the activity with the intent

startActivity(intent);

} else {

// Handle the case when no app is available to handle the intent

// For example, display a message to the user

// or use a different approach to open the website

}

}

}

//manifest.xml

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

Q2) Create an Android application which will ask the user to input his / her name. A message should display the two items concatenated in a label. Change the format of the label using radio buttons and check boxes for selection. The user can make the label text bold, underlined or italic as well as change its color. Also include buttons to display the message in the label, clear the text boxes as well as label. Finally exit.

Sol

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

xmlns:tools="http://schemas.android.com/tools"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

tools:context=".MainActivity">

<EditText

android:id="@+id/editTextName"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:hint="Enter your name"

android:layout\_margin="16dp"/>

<Button

android:id="@+id/buttonDisplay"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_below="@id/editTextName"

android:text="Display"

android:layout\_marginTop="16dp"

android:onClick="displayMessage"/>

<Button

android:id="@+id/buttonClear"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_below="@id/buttonDisplay"

android:text="Clear"

android:layout\_marginTop="16dp"

android:onClick="clearFields"/>

<TextView

android:id="@+id/textViewMessage"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_below="@id/buttonClear"

android:text=""

android:layout\_marginTop="16dp"/>

<!-- Radio buttons for text formatting -->

<RadioGroup

android:id="@+id/radioGroupFormat"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_below="@id/textViewMessage"

android:layout\_marginTop="16dp">

<RadioButton

android:id="@+id/radioButtonBold"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Bold"/>

<RadioButton

android:id="@+id/radioButtonItalic"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Italic"/>

<RadioButton

android:id="@+id/radioButtonUnderline"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Underline"/>

</RadioGroup>

<!-- Checkboxes for text color -->

<CheckBox

android:id="@+id/checkBoxRed"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Red"

android:layout\_below="@id/radioGroupFormat"

android:layout\_marginTop="16dp"/>

<CheckBox

android:id="@+id/checkBoxBlue"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Blue"

android:layout\_below="@id/checkBoxRed"

android:layout\_marginTop="16dp"/>

<CheckBox

android:id="@+id/checkBoxGreen"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Green"

android:layout\_below="@id/checkBoxBlue"

android:layout\_marginTop="16dp"/>

</RelativeLayout>

import android.graphics.Color;

import android.graphics.Typeface;

import android.os.Bundle;

import android.view.View;

import android.widget.CheckBox;

import android.widget.EditText;

import android.widget.RadioButton;

import android.widget.RadioGroup;

import android.widget.TextView;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

EditText editTextName;

TextView textViewMessage;

RadioGroup radioGroupFormat;

RadioButton radioButtonBold, radioButtonItalic, radioButtonUnderline;

CheckBox checkBoxRed, checkBoxBlue, checkBoxGreen;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

editTextName = findViewById(R.id.editTextName);

textViewMessage = findViewById(R.id.textViewMessage);

radioGroupFormat = findViewById(R.id.radioGroupFormat);

radioButtonBold = findViewById(R.id.radioButtonBold);

radioButtonItalic = findViewById(R.id.radioButtonItalic);

radioButtonUnderline = findViewById(R.id.radioButtonUnderline);

checkBoxRed = findViewById(R.id.checkBoxRed);

checkBoxBlue = findViewById(R.id.checkBoxBlue);

checkBoxGreen = findViewById(R.id.checkBoxGreen);

}

public void displayMessage(View view) {

String name = editTextName.getText().toString();

StringBuilder message = new StringBuilder(name);

// Apply text formatting based on selected radio button

int formatId = radioGroupFormat.getCheckedRadioButtonId();

if (formatId == R.id.radioButtonBold) {

textViewMessage.setTypeface(null, Typeface.BOLD);

} else if (formatId == R.id.radioButtonItalic) {

textViewMessage.setTypeface(null, Typeface.ITALIC);

} else if (formatId == R.id.radioButtonUnderline) {

textViewMessage.setPaintFlags(textViewMessage.getPaintFlags() | android.graphics.Paint.UNDERLINE\_TEXT\_FLAG);

}

// Apply text color based on selected checkboxes

int color = Color.BLACK;

if (checkBoxRed.isChecked()) {

color = Color.RED;

} else if (checkBoxBlue.isChecked()) {

color = Color.BLUE;

} else if (checkBoxGreen.isChecked()) {

color = Color.GREEN;

}

textViewMessage.setTextColor(color);

textViewMessage.setText(message.toString());

}

public void clearFields(View view) {

editTextName.setText("");

textViewMessage.setText("");

radioGroupFormat.clearCheck();

checkBoxRed.setChecked(false);

checkBoxBlue.setChecked(false);

checkBoxGreen.setChecked(false);

}

}

Slip 24

Q.1] Write an application to accept a string from the user. With two buttons to display the string in Uppercase and Lowercase using the toast message.

Sol

<!-- activity\_main.xml -->

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

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

xmlns:tools="http://schemas.android.com/tools"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

tools:context=".MainActivity">

<EditText

android:id="@+id/editText"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:hint="Enter a string"

android:inputType="text"/>

<Button

android:id="@+id/buttonUpperCase"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Upper Case"

android:layout\_below="@id/editText"

android:layout\_marginTop="16dp"

android:layout\_alignParentStart="true"/>

<Button

android:id="@+id/buttonLowerCase"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Lower Case"

android:layout\_below="@id/editText"

android:layout\_marginTop="16dp"

android:layout\_alignParentEnd="true"/>

</RelativeLayout>

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.EditText;

import android.widget.Toast;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

private EditText editText;

private Button buttonUpperCase, buttonLowerCase;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

editText = findViewById(R.id.editText);

buttonUpperCase = findViewById(R.id.buttonUpperCase);

buttonLowerCase = findViewById(R.id.buttonLowerCase);

buttonUpperCase.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

displayUpperCase();

}

});

buttonLowerCase.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

displayLowerCase();

}

});

}

private void displayUpperCase() {

String text = editText.getText().toString().toUpperCase();

showToast(text);

}

private void displayLowerCase() {

String text = editText.getText().toString().toLowerCase();

showToast(text);

}

private void showToast(String text) {

Toast.makeText(this, text, Toast.LENGTH\_SHORT).show();

}

}

Q.2] Create table Car (id, name, type, color). Create Java Android Application for performing the following operation on the table. (Using SQLite database)

i) Insert 5 New Car Details. ii) Show All the Car Details

Sol

// Create DBHelper.java class

import android.content.Context;

import android.database.sqlite.SQLiteDatabase;

import android.database.sqlite.SQLiteOpenHelper;

public class DBHelper extends SQLiteOpenHelper {

private static final int DATABASE\_VERSION = 1;

private static final String DATABASE\_NAME = "CarDB";

public static final String TABLE\_NAME = "Car";

public static final String KEY\_ID = "id";

public static final String KEY\_NAME = "name";

public static final String KEY\_TYPE = "type";

public static final String KEY\_COLOR = "color";

public DBHelper(Context context) {

super(context, DATABASE\_NAME, null, DATABASE\_VERSION);

}

@Override

public void onCreate(SQLiteDatabase db) {

String CREATE\_CAR\_TABLE = "CREATE TABLE " + TABLE\_NAME + "("

+ KEY\_ID + " INTEGER PRIMARY KEY,"

+ KEY\_NAME + " TEXT,"

+ KEY\_TYPE + " TEXT,"

+ KEY\_COLOR + " TEXT" + ")";

db.execSQL(CREATE\_CAR\_TABLE);

}

@Override

public void onUpgrade(SQLiteDatabase db, int oldVersion, int newVersion) {

db.execSQL("DROP TABLE IF EXISTS " + TABLE\_NAME);

onCreate(db);

}

}

<!-- activity\_main.xml -->

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

xmlns:tools="http://schemas.android.com/tools"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

tools:context=".MainActivity">

<Button

android:id="@+id/btnInsert"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Insert Car Details"

android:layout\_centerHorizontal="true"

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

<Button

android:id="@+id/btnDisplay"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Display Car Details"

android:layout\_below="@id/btnInsert"

android:layout\_centerHorizontal="true"

android:layout\_marginTop="20dp"/>

</RelativeLayout>

import android.content.ContentValues;

import android.database.Cursor;

import android.database.sqlite.SQLiteDatabase;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.Toast;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

private Button btnInsert, btnDisplay;

private DBHelper dbHelper;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

btnInsert = findViewById(R.id.btnInsert);

btnDisplay = findViewById(R.id.btnDisplay);

dbHelper = new DBHelper(this);

btnInsert.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

insertCarDetails();

}

});

btnDisplay.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

displayCarDetails();

}

});

}

private void insertCarDetails() {

SQLiteDatabase db = dbHelper.getWritableDatabase();

ContentValues values = new ContentValues();

// Inserting car details

for (int i = 1; i <= 5; i++) {

values.put(DBHelper.KEY\_NAME, "Car " + i);

values.put(DBHelper.KEY\_TYPE, "Type " + i);

values.put(DBHelper.KEY\_COLOR, "Color " + i);

db.insert(DBHelper.TABLE\_NAME, null, values);

}

db.close();

Toast.makeText(this, "Car details inserted successfully", Toast.LENGTH\_SHORT).show();

}

private void displayCarDetails() {

SQLiteDatabase db = dbHelper.getReadableDatabase();

Cursor cursor = db.rawQuery("SELECT \* FROM " + DBHelper.TABLE\_NAME, null);

StringBuilder stringBuilder = new StringBuilder();

while (cursor.moveToNext()) {

String id = cursor.getString(cursor.getColumnIndex(DBHelper.KEY\_ID));

String name = cursor.getString(cursor.getColumnIndex(DBHelper.KEY\_NAME));

String type = cursor.getString(cursor.getColumnIndex(DBHelper.KEY\_TYPE));

String color = cursor.getString(cursor.getColumnIndex(DBHelper.KEY\_COLOR));

stringBuilder.append("ID: ").append(id).append(", Name: ").append(name)

.append(", Type: ").append(type).append(", Color: ").append(color)

.append("\n");

}

cursor.close();

db.close();

Toast.makeText(this, stringBuilder.toString(), Toast.LENGTH\_LONG).show();

}

}

Slip 25

Q.1] Create an android application for SMS activity.

Sol

<!-- activity\_main.xml -->

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

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

xmlns:tools="http://schemas.android.com/tools"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

tools:context=".MainActivity">

<EditText

android:id="@+id/editTextPhoneNumber"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:hint="Enter Phone Number"

android:inputType="phone"/>

<EditText

android:id="@+id/editTextMessage"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_below="@id/editTextPhoneNumber"

android:layout\_marginTop="16dp"

android:hint="Enter Message"/>

<Button

android:id="@+id/buttonSend"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Send"

android:layout\_below="@id/editTextMessage"

android:layout\_centerHorizontal="true"

android:layout\_marginTop="16dp"/>

</RelativeLayout>

import android.Manifest;

import android.content.pm.PackageManager;

import android.os.Bundle;

import android.telephony.SmsManager;

import android.view.View;

import android.widget.Button;

import android.widget.EditText;

import android.widget.Toast;

import androidx.annotation.NonNull;

import androidx.appcompat.app.AppCompatActivity;

import androidx.core.app.ActivityCompat;

import androidx.core.content.ContextCompat;

public class MainActivity extends AppCompatActivity {

private static final int PERMISSION\_REQUEST\_CODE = 1;

private EditText editTextPhoneNumber, editTextMessage;

private Button buttonSend;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

editTextPhoneNumber = findViewById(R.id.editTextPhoneNumber);

editTextMessage = findViewById(R.id.editTextMessage);

buttonSend = findViewById(R.id.buttonSend);

buttonSend.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

sendSMS();

}

});

// Request permissions if not granted

if (ContextCompat.checkSelfPermission(this, Manifest.permission.SEND\_SMS)

!= PackageManager.PERMISSION\_GRANTED) {

ActivityCompat.requestPermissions(this,

new String[]{Manifest.permission.SEND\_SMS}, PERMISSION\_REQUEST\_CODE);

}

}

private void sendSMS() {

String phoneNumber = editTextPhoneNumber.getText().toString();

String message = editTextMessage.getText().toString();

if (phoneNumber.isEmpty() || message.isEmpty()) {

Toast.makeText(this, "Please enter phone number and message", Toast.LENGTH\_SHORT).show();

return;

}

SmsManager smsManager = SmsManager.getDefault();

smsManager.sendTextMessage(phoneNumber, null, message, null, null);

Toast.makeText(this, "SMS sent successfully", Toast.LENGTH\_SHORT).show();

// Clear input fields after sending SMS

editTextPhoneNumber.setText("");

editTextMessage.setText("");

}

@Override

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

super.onRequestPermissionsResult(requestCode, permissions, grantResults);

if (requestCode == PERMISSION\_REQUEST\_CODE) {

if (grantResults.length > 0 && grantResults[0] == PackageManager.PERMISSION\_GRANTED) {

Toast.makeText(this, "SMS permission granted", Toast.LENGTH\_SHORT).show();

} else {

Toast.makeText(this, "SMS permission denied", Toast.LENGTH\_SHORT).show();

}

}

}

}

//manifest.xml

<uses-permission android:name="android.permission.SEND\_SMS" />

Q.2] Create an Android application, which show Login Form in table layout. After clicking LOGIN button display the “Login Successful…” message if username and password is same else display “Invalid Login” message in Toast Control.

Sol

<!-- activity\_main.xml -->

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

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

xmlns:tools="http://schemas.android.com/tools"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:padding="16dp"

tools:context=".MainActivity">

<TableLayout

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content”

android:layout\_centerInParent="true"

android:stretchColumns="\*">

<TableRow>

<TextView

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Username:" />

<EditText

android:id="@+id/editTextUsername"

android:layout\_width="0dp"

android:layout\_height="wrap\_content"

android:layout\_weight="1"

android:inputType="text" />

</TableRow>

<TableRow>

<TextView

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Password:" />

<EditText

android:id="@+id/editTextPassword"

android:layout\_width="0dp"

android:layout\_height="wrap\_content"

android:layout\_weight="1"

android:inputType="textPassword" />

</TableRow>

<TableRow>

<Button

android:id="@+id/buttonLogin"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="LOGIN"

android:layout\_span="2"

android:layout\_gravity="center\_horizontal"/>

</TableRow>

</TableLayout>

</RelativeLayout>

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.EditText;

import android.widget.Toast;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

private EditText editTextUsername, editTextPassword;

private Button buttonLogin;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

editTextUsername = findViewById(R.id.editTextUsername);

editTextPassword = findViewById(R.id.editTextPassword);

buttonLogin = findViewById(R.id.buttonLogin);

buttonLogin.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

login();

}

});

}

private void login() {

String username = editTextUsername.getText().toString().trim();

String password = editTextPassword.getText().toString().trim();

// Check if username and password are both "admin"

if (username.equals("admin") && password.equals("admin")) {

showToast("Login Successful");

} else {

showToast("Invalid Login");

}

}

private void showToast(String message) {

Toast.makeText(this, message, Toast.LENGTH\_SHORT).show();

}

}