Q1 Calculator

#MainActivity.java

```
import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.GridLayout;
import android.widget.TextView;


public class MainActivity extends AppCompatActivity {
    private EditText editTextNumber1;
    private EditText editTextNumber2;
    private TextView resultTextView;

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

        editTextNumber1 = findViewById(R.id.editTextNumber1);
        editTextNumber2 = findViewById(R.id.editTextNumber2);
        resultTextView = findViewById(R.id.resultTextView);

        /* GridLayout gridLayout = findViewById(R.id.LinearLayout); */

    }
    public void performOperation(View view) {
        Button button = (Button) view;
        String operator = button.getText().toString();

        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 {
                    resultTextView.setText("Error: Division by zero");
                    return;
                }
                break;
        }

        resultTextView.setText("Result: " + result);
    }

    public void calculateResult(View view) {
        double num1 =
Double.parseDouble(editTextNumber1.getText().toString());
        double num2 =
Double.parseDouble(editTextNumber2.getText().toString());

        // Display an error message if the second number is zero for division
        if (num2 == 0) {
            resultTextView.setText("Error: Division by zero");
            return;
        }

        double result = num1 / num2;
        resultTextView.setText("Result: " + result);
    }
}
```

#Acticity_Main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
```

```
    tools:context=".MainActivity" >

    <TextView
        android:id="@+id/textView2"
        android:layout_width="match_parent"
        android:layout_height="61dp"
        android:autoText="false"
        android:background="#2196F3"
        android:backgroundTint="@color/purple_500"
        android:text="Calculator"
        android:textAlignment="center"
        android:textAppearance="@style/TextAppearance.AppCompat.Display1"
        android:textColor="@color/white"
        android:textStyle="bold" />

    <EditText
        android:id="@+id/editTextNumber1"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="16dp"
        android:inputType="numberDecimal"
        android:hint="Enter number 1"
        android:layout_marginStart="16dp"
        android:layout_marginEnd="16dp"/>

    <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:inputType="numberDecimal"
        android:hint="Enter number 2"
        android:layout_marginStart="16dp"
        android:layout_marginEnd="16dp"/>

    <!-- Buttons for operations -->
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:orientation="horizontal">

        <Button
            android:id="@+id/buttonAdd"
            android:layout_width="0dp"
            android:layout_height="wrap_content"
            android:layout_weight="1"
```

```
            android:onClick="performOperation"
            android:text="+" />

        <Button
            android:id="@+id/buttonDivide"
            android:layout_width="0dp"
            android:layout_height="wrap_content"
            android:layout_weight="1"
            android:onClick="performOperation"
            android:text="/" />

        <Button
            android:id="@+id/buttonSubtract"
            android:layout_width="0dp"
            android:layout_height="wrap_content"
            android:layout_weight="1"
            android:onClick="performOperation"
            android:text="-" />

        <Button
            android:id="@+id/buttonMultiply"
            android:layout_width="0dp"
            android:layout_height="wrap_content"
            android:layout_weight="1"
            android:onClick="performOperation"
            android:text="*" />

    </LinearLayout>


    <Button
        android:id="@+id/buttonEquals"
        android:text="="
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="16dp"
        android:onClick="calculateResult"/>

    <TextView
        android:id="@+id/resultTextView"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="16dp"
        android:gravity="end"
        android:text="Result: "
        android:textAlignment="textStart"
        android:textSize="50sp"
        tools:ignore="RtlCompat" />
```

```
</LinearLayout>
```

Q2. Rating

#MainActivity.java

```
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.RatingBar;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

    private RatingBar ratingBar;
    private Button submitButton;

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

        ratingBar = findViewById(R.id.ratingBar);
        submitButton = findViewById(R.id.submitButton);

    }

    public void submitRating(View view) {
        float rating = ratingBar.getRating();
        String message = "Rating: " + rating;

        Toast.makeText(this, message, Toast.LENGTH_SHORT).show();
    }
}
```

#Acticity_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">

    <RatingBar
        android:id="@+id/ratingBar"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_centerInParent="true"
        android:numStars="5"
        android:stepSize="1.0" />

    <Button
        android:id="@+id/submitButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@id/ratingBar"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="16dp"
        android:text="Submit Rating"
        android:onClick="submitRating"/>
</RelativeLayout>

        android:layout_weight="1"
            android:layout_height="wrap_content"
            android:layout_weight="1"
            android:onClick="performOperation"
            android:text="-" />

        <Button
            android:id="@+id/buttonMultiply"
            android:layout_width="0dp"
            android:layout_height="wrap_content"
            android:layout_weight="1"
            android:onClick="performOperation"
```

```
            android:text="*" />

    </LinearLayout>
```

Q3. DeliveryOptions

#MainActivity.java

```
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.RadioButton;
import android.widget.RadioGroup;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

    private RadioGroup radioGroup;
    private Button submitButton;

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

        radioGroup = findViewById(R.id.radioGroup);
        submitButton = findViewById(R.id.submitButton);
    }
        public void submitDeliveryMethod(View view) {
            int selectedId = radioGroup.getCheckedRadioButtonId();

            if (selectedId != -1) {
                RadioButton selectedRadioButton = findViewById(selectedId);
                String selectedOption =
selectedRadioButton.getText().toString();
                String message = "Selected Delivery Method: " +
selectedOption;

                Toast.makeText(this, message, Toast.LENGTH_SHORT).show();
            } else {
                Toast.makeText(this, "Please select a delivery method",
Toast.LENGTH_SHORT).show();
            }
```

```
    }
}
```

#Acticity_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">

    <RadioGroup
        android:id="@+id/radioGroup"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_centerInParent="true">

        <RadioButton
            android:id="@+id/radioSameDay"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Same Day"/>

        <RadioButton
            android:id="@+id/radioNextDay"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Next Day"/>

        <RadioButton
            android:id="@+id/radioPickup"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Pickup"/>
    </RadioGroup>

    <Button
        android:id="@+id/submitButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@id/radioGroup"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="16dp"
        android:text="Submit"
        android:onClick="submitDeliveryMethod"/>
```

```
</RelativeLayout>
```

Q4 CheckBox

#MainActivity.java

```
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.CheckBox;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

    private CheckBox checkBoxChocolate, checkBoxSprinkles, checkBoxNuts,
checkBoxCaramel, checkBoxFruits;
    private Button submitButton;

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

        checkBoxChocolate = findViewById(R.id.checkBoxChocolate);
        checkBoxSprinkles = findViewById(R.id.checkBoxSprinkles);
        checkBoxNuts = findViewById(R.id.checkBoxNuts);
        checkBoxCaramel = findViewById(R.id.checkBoxCaramel);
        checkBoxFruits = findViewById(R.id.checkBoxFruits);

        submitButton = findViewById(R.id.submitButton);
    }

    public void submitToppings(View view) {
        StringBuilder selectedToppings = new StringBuilder("Selected Toppings:
");

        if (checkBoxChocolate.isChecked()) {
            selectedToppings.append("Chocolate, ");
        }

        if (checkBoxSprinkles.isChecked()) {
            selectedToppings.append("Sprinkles, ");
        }

        if (checkBoxNuts.isChecked()) {
            selectedToppings.append("Nuts, ");
```

```
        }

        if (checkBoxCaramel.isChecked()) {
            selectedToppings.append("Caramel, ");
        }

        if (checkBoxFruits.isChecked()) {
            selectedToppings.append("Fruits, ");
        }

        String message = selectedToppings.toString().trim();
        if (message.endsWith(",")) {
            // Remove the trailing comma
            message = message.substring(0, message.length() - 1);
        }

        Toast.makeText(this, message, Toast.LENGTH_SHORT).show();
    }
}
```

#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">

    <CheckBox
        android:id="@+id/checkBoxChocolate"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Chocolate"
        android:layout_marginTop="8dp"
        android:layout_marginStart="16dp"
        android:padding="8dp"/>

    <CheckBox
        android:id="@+id/checkBoxSprinkles"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Sprinkles"
        android:layout_below="@id/checkBoxChocolate"
        android:layout_marginTop="8dp"
        android:layout_marginStart="16dp"
        android:padding="8dp"/>

    <CheckBox
        android:id="@+id/checkBoxNuts"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Nuts"
        android:layout_below="@id/checkBoxSprinkles"
        android:layout_marginTop="8dp"
        android:layout_marginStart="16dp"
        android:padding="8dp"/>

    <CheckBox
        android:id="@+id/checkBoxCaramel"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Caramel"
        android:layout_below="@id/checkBoxNuts"
        android:layout_marginTop="8dp"
```

```
        android:layout_marginStart="16dp"
        android:padding="8dp"/>

    <CheckBox
        android:id="@+id/checkBoxFruits"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Fruits"
        android:layout_below="@id/checkBoxCaramel"
        android:layout_marginTop="8dp"
        android:layout_marginStart="16dp"
        android:padding="8dp"/>

    <Button
        android:id="@+id/submitButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@id/checkBoxFruits"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="16dp"
        android:text="Submit"
        android:onClick="submitToppings"/>

</RelativeLayout>
```

Q5 Swtich

#MainActivity.java

```
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.CompoundButton;
import android.widget.Switch;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {
    private Switch switchButton;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
```

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

        switchButton.setOnCheckedChangeListener(new
CompoundButton.OnCheckedChangeListener() {
            @Override
            public void onCheckedChanged(CompoundButton buttonView, boolean
isChecked) {
                // isChecked is true when the switch is ON, false when it's
OFF
                if (isChecked) {
                    showToast("Switch is ON");
                } else {
                    showToast("Switch is OFF");
                }
            }
        });
    }

    private void showToast(String message) {
        Toast.makeText(this, message, Toast.LENGTH_SHORT).show();
    }
}
```

#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">

    <Switch
        android:id="@+id/switchButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_centerHorizontal="true"
        android:layout_centerVertical="true"
```

```
        android:text="Toggle Switch" />

</RelativeLayout>
```

Q6 Toggle button

#MainActivity.java

```
import android.os.Bundle;
import android.widget.CompoundButton;
import android.widget.RelativeLayout;
import android.widget.SeekBar;
import android.widget.Switch;
import android.widget.Toast;
import android.widget.ToggleButton;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

    private ToggleButton toggleButton;
    private Switch switchButton;
    private SeekBar seekBar;

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

        toggleButton = findViewById(R.id.toggleButton);
        switchButton = findViewById(R.id.switchButton);
        seekBar = findViewById(R.id.seekBar);

        setToggleButtonListener();
        setSwitchButtonListener();
        setSeekBarListener();
    }

    private void setToggleButtonListener() {
        toggleButton.setOnCheckedChangeListener(new
CompoundButton.OnCheckedChangeListener() {
            @Override
            public void onCheckedChanged(CompoundButton buttonView, boolean
isChecked) {
```

```
                String message = isChecked ? "Toggle Button is ON" : "Toggle
Button is OFF";
                showToast(message);
            }
        });
    }

    private void setSwitchButtonListener() {
        switchButton.setOnCheckedChangeListener(new
CompoundButton.OnCheckedChangeListener() {
            @Override
            public void onCheckedChanged(CompoundButton buttonView, boolean
isChecked) {
                String message = isChecked ? "Switch Button is ON" : "Switch
Button is OFF";
                showToast(message);
            }
        });
    }

    private void setSeekBarListener() {
        seekBar.setOnSeekBarChangeListener(new
SeekBar.OnSeekBarChangeListener() {
            @Override
            public void onProgressChanged(SeekBar seekBar, int progress,
boolean fromUser) {
                String message = "Seek Bar Progress: " + progress;
                showToast(message);
            }

            @Override
            public void onStartTrackingTouch(SeekBar seekBar) {
                // Not implemented
            }

            @Override
            public void onStopTrackingTouch(SeekBar seekBar) {
                // Not implemented
            }
        });
    }

    private void showToast(String message) {
        Toast.makeText(this, message, Toast.LENGTH_SHORT).show();
    }
}
```

#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">

    <ToggleButton
        android:id="@+id/toggleButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="16dp"
        android:text="Toggle Button" />

    <Switch
        android:id="@+id/switchButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@id/toggleButton"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="16dp"
        android:text="Switch Button" />

    <SeekBar
        android:id="@+id/seekBar"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_below="@id/switchButton"
        android:layout_marginTop="16dp"
        android:layout_marginStart="16dp"
        android:layout_marginEnd="16dp"/>
</RelativeLayout>
```

Q7 Spinner

#MainActivity.java

```
import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.ArrayAdapter;
import android.widget.EditText;
import android.widget.RelativeLayout;
import android.widget.Spinner;
import android.widget.Toast;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

    private EditText editTextEmail;
    private Spinner spinnerEmailType;

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

        editTextEmail = findViewById(R.id.editTextEmail);
        spinnerEmailType = findViewById(R.id.spinnerEmailType);

        setupSpinner();
    }

    private void setupSpinner() {
        // Define an array of email types
        String[] emailTypes = {"Home", "Work", "Other", "Custom"};

        // Create an ArrayAdapter using the string array and a default spinner
layout
        ArrayAdapter<String> adapter = new ArrayAdapter<>(this,
android.R.layout.simple_spinner_item, emailTypes);

        // Specify the layout to use when the list of choices appears
        adapter.setDropDownViewResource(android.R.layout.simple_spinner_dropdo
wn_item);

        // Apply the adapter to the spinner
        spinnerEmailType.setAdapter(adapter);
```

```
        // Set a listener for item selections
        spinnerEmailType.setOnItemSelectedListener(new
AdapterView.OnItemSelectedListener() {
            @Override
            public void onItemSelected(AdapterView<?> parentView, View
selectedItemView, int position, long id) {
                // Display a toast message with the selected email type
                String selectedEmailType = (String)
parentView.getItemAtPosition(position);
                showToast("Selected Email Type: " + selectedEmailType);
            }

            @Override
            public void onNothingSelected(AdapterView<?> parentView) {
                // Do nothing
            }
        });
    }

    private void showToast(String message) {
        Toast.makeText(this, message, Toast.LENGTH_SHORT).show();
    }
}
```

#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/editTextEmail"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="16dp"
        android:hint="Enter Email Address"
        android:inputType="textEmailAddress"
        android:layout_centerHorizontal="true" />

    <Spinner
        android:id="@+id/spinnerEmailType"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_below="@id/editTextEmail"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="16dp" />
</RelativeLayout>
```

Q8 Login Activity

#MainActivity.java

```
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 btnLogin;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
```

```
        setContentView(R.layout.activity_main);

        editTextUsername = findViewById(R.id.editTextUsername);
        editTextPassword = findViewById(R.id.editTextPassword);
        btnLogin = findViewById(R.id.btnLogin);

        btnLogin.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                checkLoginCredentials();
            }
        });
    }

    private void checkLoginCredentials() {
        String username = editTextUsername.getText().toString().trim();
        String password = editTextPassword.getText().toString().trim();

        // Check if the entered credentials match the hardcoded values
        if (username.equals("mca") && password.equals("android")) {
            showToast("Login successful!");
        } else {
            showToast("Invalid credentials. Please try again.");
        }
    }

    private void showToast(String message) {
        Toast.makeText(this, message, Toast.LENGTH_SHORT).show();
    }
}
```

#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/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/btnLogin"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_below="@id/editTextPassword"
        android:layout_marginTop="16dp"
        android:text="Login" />

</RelativeLayout>
```

Q9 WIFI

#MainActivity.java

```
// MainActivity.java
import android.content.Context;
import android.content.pm.PackageManager;
import android.net.wifi.WifiManager;
import android.os.Build;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
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 PERMISSIONS_REQUEST_CODE = 100;
    private Button btnToggleWifi;
    private WifiManager wifiManager;
```

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

        btnToggleWifi = findViewById(R.id.btnToggleWifi);
        wifiManager = (WifiManager) getSystemService(Context.WIFI_SERVICE);

        checkAndRequestPermissions();

        btnToggleWifi.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                toggleWifi();
            }
        });
    }

    private void checkAndRequestPermissions() {
        if (Build.VERSION.SDK_INT >= Build.VERSION_CODES.M) {
            if (ContextCompat.checkSelfPermission(this,
android.Manifest.permission.CHANGE_WIFI_STATE) !=
PackageManager.PERMISSION_GRANTED ||
                    ContextCompat.checkSelfPermission(this,
android.Manifest.permission.ACCESS_WIFI_STATE) !=
PackageManager.PERMISSION_GRANTED) {

                ActivityCompat.requestPermissions(this,
                        new String[]{
                                android.Manifest.permission.CHANGE_WIFI_STATE,
                                android.Manifest.permission.ACCESS_WIFI_STATE
                        },
                        PERMISSIONS_REQUEST_CODE);
            }
        }
    }

    private void toggleWifi() {
        if (wifiManager != null) {
            if (wifiManager.isWifiEnabled()) {
                wifiManager.setWifiEnabled(false);
                showToast("Wi-Fi turned OFF");
            } else {
                wifiManager.setWifiEnabled(true);
                showToast("Wi-Fi turned ON");
            }
        }
```

```
    }

    private void showToast(String message) {
        Toast.makeText(this, message, Toast.LENGTH_SHORT).show();
    }

    @Override
    public void onRequestPermissionsResult(int requestCode, @NonNull String[]
permissions, @NonNull int[] grantResults) {
        super.onRequestPermissionsResult(requestCode, permissions,
grantResults);
        if (requestCode == PERMISSIONS_REQUEST_CODE) {
            if (grantResults.length > 0 && grantResults[0] ==
PackageManager.PERMISSION_GRANTED) {
                // Permissions granted, you can proceed with your actions
            } else {
                // Permissions not granted, inform the user or handle it
gracefully
                showToast("Permissions required to toggle Wi-Fi.");
            }
        }
    }
}
```

#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">

    <Button
        android:id="@+id/btnToggleWifi"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Toggle Wi-Fi"
        android:layout_centerInParent="true"/>
</RelativeLayout>
```

#Android_Manifest

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

Below Package Above <Applicatiion>

Q10 Bluetooth

#MainActivity.java

```
import android.bluetooth.BluetoothAdapter;
import android.content.Context;
import android.content.Intent;
import android.os.Bundle;
import android.widget.CompoundButton;
import android.widget.ToggleButton;
import androidx.appcompat.app.AppCompatActivity;

public class BluetoothActivity extends AppCompatActivity {

    private BluetoothAdapter bluetoothAdapter;

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

        // Initialize BluetoothAdapter
        bluetoothAdapter = BluetoothAdapter.getDefaultAdapter();

        // Get ToggleButton from layout
        ToggleButton toggleButton = findViewById(R.id.switch1);

        // Set initial state based on Bluetooth status
        toggleButton.setChecked(bluetoothAdapter.isEnabled());

        // Set size of the ToggleButton (adjust as needed)
        toggleButton.setLayoutParams(new ToggleButton.LayoutParams(300, 150));

        // Set listener for the ToggleButton
        toggleButton.setOnCheckedChangeListener(new
CompoundButton.OnCheckedChangeListener() {
            public void onCheckedChanged(CompoundButton buttonView, boolean
isChecked) {
                // Toggle Bluetooth ON/OFF based on the button state
                if (isChecked) {
                    enableBluetooth();
                } else {
                    disableBluetooth();
                }
            }
        });
```

```
    }

    private void enableBluetooth() {
        // Request user to enable Bluetooth
        Intent enableBtIntent = new
Intent(BluetoothAdapter.ACTION_REQUEST_ENABLE);
        startActivityForResult(enableBtIntent, 1);
    }

    private void disableBluetooth() {
        // Disable Bluetooth
        bluetoothAdapter.disable();
    }
}
```

#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"
        android:padding="16dp"
        tools:context=".MainActivity">

    <Switch
        android:id="@+id/switch1"
        android:layout_width="373dp"
        android:layout_height="174dp"
        android:text="Switch1" />
</LinearLayout>
```

#Android_Manifest

```
<!-- AndroidManifest.xml -->
    <uses-permission android:name="android.permission.BLUETOOTH" />
    <uses-permission android:name="android.permission.BLUETOOTH_ADMIN" />
```

Q Fragment

#FirstFragment.java

```
import android.os.Bundle;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import androidx.annotation.NonNull;
import androidx.annotation.Nullable;
import androidx.fragment.app.Fragment;
import com.abhishek.fragmentactivity.R;

public class FirstFragment extends Fragment {
    @Nullable @Override
public View onCreateView(@NonNull LayoutInflater inflater, @Nullable ViewGroup
container, @Nullable Bundle savedInstanceState) {
    //return super.onCreateView(inflater, container, savedInstanceState);
    return inflater.inflate(R.layout.first_fragment,container,false);
    }
}
```

#SecondFragment.java

```
import android.os.Bundle;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import androidx.annotation.NonNull;
import androidx.annotation.Nullable;
import androidx.fragment.app.Fragment;
import com.abhishek.fragmentactivity.R;

public class SecondFragment extends Fragment {
    @Nullable @Override
public View onCreateView(@NonNull LayoutInflater inflater, @Nullable ViewGroup
container, @Nullable Bundle savedInstanceState) {
//return super.onCreateView(inflater, container, savedInstanceState);
    return inflater.inflate(R.layout.second_fragment,container,false);
}
}
```

#MainActivity.java

```
import androidx.appcompat.app.AppCompatActivity;
```

```
import android.content.Context;
import android.graphics.Color;
import android.net.wifi.WifiManager;
import android.os.Bundle;
import android.widget.ArrayAdapter;
import android.widget.AutoCompleteTextView;
import android.widget.CompoundButton;
import android.widget.TextView;
import android.widget.ToggleButton;
import androidx.fragment.app.Fragment;
 import android.view.View;
public class MainActivity extends AppCompatActivity {
    Fragment selectedFragment;
    @Override
protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
}
    public void selectFragment(View view) {
        if (view == findViewById(R.id.button1)) {
        selectedFragment = new FirstFragment();
    } else if (view == findViewById(R.id.button2)) {
            selectedFragment = new SecondFragment();
    }
        getSupportFragmentManager().beginTransaction().replace(R.id.fragment_c
ontainer, selectedFragment).commit();
    }
}
```

#firstFragment.xml

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

```
<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    xmlns:app="http://schemas.android.com/apk/res-auto">
    <TextView
        android:id="@+id/first"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Hello, First Fragment "
        android:textSize="30sp"
        android:gravity="center"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.5"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

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

#SecondFragment.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    xmlns:app="http://schemas.android.com/apk/res-auto">
    <TextView
        android:id="@+id/first"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Hello, second Fragment"
        android:textSize="30sp"
        android:gravity="center"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.5"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

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

#activity_main.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    tools:context=".MainActivity">

    <!-- Heading of the activity -->
    <TextView android:id="@+id/textView"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="20dp"
        android:layout_marginBottom="20dp"
        android:text="@string/heading"
        android:textAlignment="center"
        android:textColor="@android:color/holo_green_light"
        android:textSize="24sp"
        android:textStyle="bold" />

    <!-- Button to display first fragment -->
    <Button android:id="@+id/button1"
        android:layout_width="fill_parent"
        android:layout_height="wrap_content"
        android:layout_margin="20dp"
        android:background="#4CAF50"
        android:onClick="selectFragment"
        android:text="@string/fragment1_button"
        android:textColor="@android:color/background_light"
        android:textSize="18sp"
        android:textStyle="bold" />

    <!-- Button to display second fragment -->
    <Button android:id="@+id/button2"
        android:layout_width="fill_parent"
        android:layout_height="wrap_content"
        android:layout_margin="20dp"
        android:background="#4CAF50"
        android:onClick="selectFragment"
        android:text="@string/fragment2_button"
        android:textColor="@android:color/background_light"
        android:textSize="18sp"
        android:textStyle="bold" />

    <!-- Adding Fragment element in the activity -->
    <FrameLayout
        android:id="@+id/fragment_container"
```

```
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        />
</LinearLayout>
```

Q.)14 Write android code to make a phone call using intent design proper UI.

Activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <TextView
        android:id="@+id/textView"
        android:layout_width="164dp"
        android:layout_height="60dp"
        android:layout_marginTop="108dp"
        android:text="Make a Call"
        android:textSize="25sp"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.546"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <EditText
        android:id="@+id/editTextNumber"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="84dp"
        android:ems="10"
        android:hint="Type number with +91"
        android:inputType="number"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.592"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/textView" />

    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="108dp"
        android:text="Call"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.544"
```

```
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/editTextNumber" />

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

MainActivity.java

```
package com.example.phonecallintent;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.net.Uri;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;

public class MainActivity extends AppCompatActivity {
     Button btn;
     EditText Phno;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        btn= findViewById(R.id.button);
        Phno = findViewById(R.id.editTextNumber);

        btn.setOnClickListener(arg -> {
// getting phone number from edit text and changing it toString
 String phone_number = Phno.getText().toString();
// Getting instance of Intent with action as ACTION_CALL
Intent phone_intent = new Intent(Intent.ACTION_CALL);
// Set data of Intent through Uri by parsing phone number
phone_intent.setData(Uri.parse("tel:" + phone_number));
// start Intent
startActivity(phone_intent);
        });
    }
}
```

Q.15) Write an android code to accept fav programming language from user. Autocomplete the answer by using autocomplete textview and arrayAdapter

Activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
```

```
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">


    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="120dp"
        android:text="Fav Programming Language"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.553"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <AutoCompleteTextView
        android:id="@+id/autoCompleteTextView"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="204dp"
        android:hint="Type fav language"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.599"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/textView" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

MainActivity.java

```
package com.example.favprogramming;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.widget.ArrayAdapter;
import android.widget.AutoCompleteTextView;

public class MainActivity extends AppCompatActivity {
```

```
    String[]
language={"C","C++","Java",".NET","JavaScript","Android","ASP.NET","PHP","C
#"};
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        ArrayAdapter<String> adapter = new ArrayAdapter<String>
(this,android.R.layout.select_dialog_item,language);
        AutoCompleteTextView actv =
(AutoCompleteTextView)findViewById(R.id.autoCompleteTextView);
actv.setThreshold(1);
        actv.setAdapter(adapter);

    }
}
```

Q.16) Write an android code to accept fav Fruit from user. Autocomplete the answer by using autocomplete textview and arrayAdapter

Activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <TextView
        android:id="@+id/textView"
        android:layout_width="128dp"
        android:layout_height="51dp"
        android:layout_marginTop="188dp"
        android:text=" Fav fruits"
        android:textSize="25sp"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.558"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <AutoCompleteTextView
        android:id="@+id/autoCompleteTextView"
        android:layout_width="210dp"
        android:layout_height="wrap_content"
        android:layout_marginTop="92dp"
        android:hint="Type fav Fruit name"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.651"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/textView" />

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

MainActivity.java

```
package com.example.favfruite;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.widget.ArrayAdapter;
import android.widget.AutoCompleteTextView;

public class MainActivity extends AppCompatActivity {
    String[]
language={"Strawberry","Banana","Pineapple","Orange","Grapes","Apple","Chic
koo","Kiwi","Mango"};
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        ArrayAdapter<String> adapter = new
ArrayAdapter<String>(this,android.R.layout.select_dialog_item,language);
        AutoCompleteTextView actv =
(AutoCompleteTextView)findViewById(R.id.autoCompleteTextView);
actv.setThreshold(1);
        actv.setAdapter(adapter);
    }
}
```

Q.17) Write an Application to display list of city names in a spinner (use arrayAdpter)

Activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">


    <Spinner
        android:id="@+id/spinner"
        android:layout_width="409dp"
        android:layout_height="wrap_content"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

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

MainActivity.java

```
package com.example.cityspinner;

import androidx.appcompat.app.AppCompatActivity;
```

```
import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.ArrayAdapter;
import android.widget.Spinner;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {
     Spinner citySpinner;

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

        citySpinner = findViewById(R.id.spinner);

        String[] cityNames =
getResources().getStringArray(R.array.city_names);

        ArrayAdapter<String> adapter = new ArrayAdapter<>(this,
android.R.layout.simple_spinner_item, cityNames);

adapter.setDropDownViewResource(android.R.layout.simple_spinner_dropdown_it
em);
        citySpinner.setAdapter(adapter);

        citySpinner.setOnItemSelectedListener(new
AdapterView.OnItemSelectedListener() {
            @Override
            public void onItemSelected(AdapterView<?> parent, View view,
int position, long id) {
                // Get the selected city name
                String selectedCity = cityNames[position];


                String toastMessage = "You have selected: " + selectedCity;
                Toast.makeText(getApplicationContext(), toastMessage,
Toast.LENGTH_SHORT).show();
            }

            @Override
            public void onNothingSelected(AdapterView<?> parent) {

            }
        });
    }
}
```