[***Mobile***](https://classroom.google.com/c/NjUxNjcxMDQwNDEy) ***App Development***

***TASK :***

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***SECTION          :           BS (CS)-6A***

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***DATE                 :       06-05-2024***

**TASK NO. 1**

<resources>

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

</resources>

<?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">

<TextView

android:id="@+id/textView"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="@string/app\_name" />

</RelativeLayout>

<?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">

<TextView

android:id="@+id/textView"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

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

android:rotation="90" /> <!-- Example: Rotate TextView for landscape -->

</RelativeLayout>

import android.os.Bundle;

import androidx.appcompat.app.AppCompatActivity;

import android.widget.TextView;

public class MainActivity extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

// Accessing string resource

String appName = getResources().getString(R.string.app\_name);

// Accessing TextView and setting text

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

textView.setText(appName);

}

}

**TASK NO. 2**

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

android:id="@+id/gridLayout"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:columnCount="3"

android:rowCount="3"

android:padding="16dp"

android:orientation="horizontal">

<!-- Placeholders for grid cells -->

<TextView

android:id="@+id/cell\_00"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:textSize="24sp"

android:gravity="center"

android:background="@drawable/grid\_cell\_bg"

android:clickable="true"

android:focusable="true" />

<!-- Add more TextViews for other cells (cell\_01, cell\_02, cell\_10, etc.) -->

</GridLayout>

import android.graphics.Color

import androidx.appcompat.app.AppCompatActivity

import android.os.Bundle

import android.view.View

import android.widget.TextView

import kotlinx.android.synthetic.main.activity\_main.\*

import kotlin.random.Random

class MainActivity : AppCompatActivity() {

override fun onCreate(savedInstanceState: Bundle?) {

super.onCreate(savedInstanceState)

setContentView(R.layout.activity\_main)

val gridLayout = findViewById<GridLayout>(R.id.gridLayout)

// Generate random numbers and set text for each grid cell

for (i in 0 until gridLayout.childCount) {

val view = gridLayout.getChildAt(i)

if (view is TextView) {

val randomNumber = Random.nextInt(1, 10) // Generate random number between 1 and 9

view.text = randomNumber.toString()

// Set click listener for each cell

view.setOnClickListener {

highlightCellsWithSameNumber(randomNumber)

}

}

}

}

private fun highlightCellsWithSameNumber(number: Int) {

val gridLayout = findViewById<GridLayout>(R.id.gridLayout)

for (i in 0 until gridLayout.childCount) {

val view = gridLayout.getChildAt(i)

if (view is TextView && view.text.toString().toInt() == number) {

view.setBackgroundColor(Color.YELLOW) // Change background color to yellow

} else {

view.setBackgroundColor(Color.WHITE) // Reset other cells' background color

}

}

}

}

**TASK NO. 3**

public class MainActivity extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

EdgeToEdge.enable(this);

setContentView(R.layout.activity\_main);

ViewCompat.setOnApplyWindowInsetsListener(findViewById(R.id.main), (v, insets) -> {

Insets systemBars = insets.getInsets(WindowInsetsCompat.Type.systemBars());

v.setPadding(systemBars.left, systemBars.top, systemBars.right, systemBars.bottom);

return insets;

});

}

// Method to validate URL

public boolean isValidUrl(String url) {

return Patterns.WEB\_URL.matcher(url).matches();

}

public void submitLink(View view){

EditText inputLink = findViewById(R.id.linkText);

String link = inputLink.getText().toString().trim(); // Trim to remove leading/trailing whitespace

if (!link.isEmpty() && isValidUrl(link)) {

Intent intent = new Intent(Intent.ACTION\_VIEW, Uri.parse(link));

startActivity(intent);

} else {

// Handle invalid URL

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

}

}

}

XML code

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

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

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

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

android:id="@+id/main"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

tools:context=".MainActivity"

android:orientation="vertical"

android:gravity="center"

android:padding="20dp">

<TextView

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Enter Website"

app:layout\_constraintBottom\_toBottomOf="parent"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintStart\_toStartOf="parent"

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

<EditText

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:id="@+id/linkText"

android:autofillHints=""

android:inputType="textUri"

tools:ignore="LabelFor" />

<Button

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:id="@+id/button"

android:text="Submit"

android:onClick="submitLink"/>

</LinearLayout>