**MAD ASSINMNET**

**Question : 1**

**XML FILE:**

<LinearLayout

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:padding="21dp">

<EditText

android:id="@+id/editTextUrl"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:hint="Enter website URL"

android:inputType="textUri" />

<Button

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Go to Website"

android:layout\_gravity="center"

android:onClick="openWebsite" />

</LinearLayout>

**JAVA File:**

import android.content.Intent;

import android.net.Uri;

import android.os.Bundle;

import android.support.v7.app.AppCompatActivity;

import android.view.View;

import android.widget.EditText;

import android.widget.Toast;

import java.util.regex.Matcher;

import java.util.regex.Pattern;

public class MainActivity extends AppCompatActivity {

private EditText editTextUrl;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

editTextUrl = findViewById(R.id.editTextUrl);

}

public void openWebsite(View view) {

String url = editTextUrl.getText().toString().trim();

if (isValidUrl(url)) {

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

startActivity(intent);

} else {

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

}

}

private boolean isValidUrl(String url) {

// Regular expression pattern to validate URL

String regex = "^(http(s)?://)?([\\w-]+\\.)+[\\w-]+(/[\\w- ./?%&=]\*)?$";

Pattern pattern = Pattern.compile(regex);

Matcher matcher = pattern.matcher(url);

return matcher.matches();

}

}

**Q:** **Grid layout**

***XML FILE :***

<GridLayout

android:id="@+id/gridLayout"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:columnCount="3"

android:rowCount="3" >

</GridLayout>

**JAVA FILE:**

import android.graphics.Color;

import android.os.Bundle;

import android.support.v7.app.AppCompatActivity;

import android.view.Gravity;

import android.widget.GridLayout;

import android.widget.TextView;

import java.util.Random;

public class MainActivity extends AppCompatActivity {

private GridLayout gridLayout;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

gridLayout = findViewById(R.id.gridLayout);

// Generate random numbers and display in cells

generateRandomNumbers();

// Highlight cells with same numbers in adjacent columns

highlightCells();

}

private void generateRandomNumbers() {

Random random = new Random();

for (int i = 0; i < gridLayout.getRowCount(); i++) {

for (int j = 0; j < gridLayout.getColumnCount(); j++) {

TextView textView = new TextView(this);

textView.setText(String.valueOf(random.nextInt(9) + 1)); // Generate random number between 1 and 9

textView.setTextSize(20);

textView.setGravity(Gravity.CENTER);

gridLayout.addView(textView);

}

}

}

private void highlightCells() {

for (int i = 0; i < gridLayout.getRowCount(); i++) {

for (int j = 0; j < gridLayout.getColumnCount() - 1; j++) {

TextView currentCell = (TextView) gridLayout.getChildAt(i \* gridLayout.getColumnCount() + j);

TextView nextCell = (TextView) gridLayout.getChildAt(i \* gridLayout.getColumnCount() + j + 1);

if (currentCell.getText().equals(nextCell.getText())) {

currentCell.setBackgroundColor(Color.YELLOW);

nextCell.setBackgroundColor(Color.YELLOW);

}

}

}

}

}