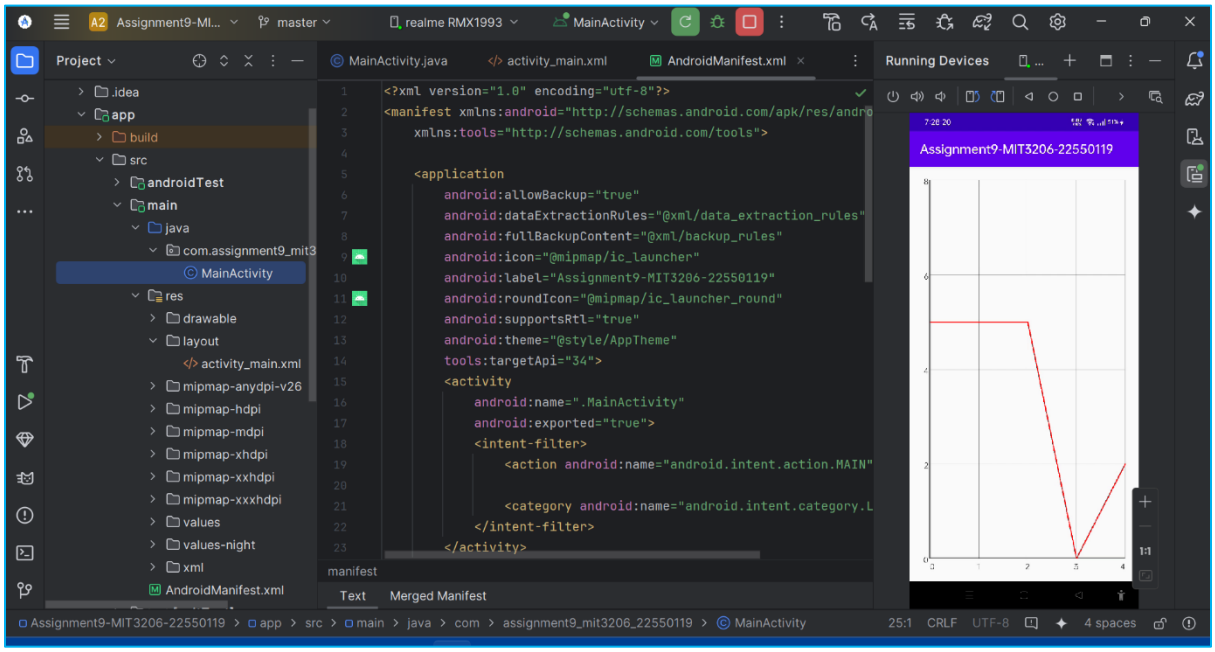
- **Course Module : MIT3206 - Mobile Computing**
- **Course Lecturer : Senior Lecturer Gihan P. Seneviratne Sir**

- **Assignment 9 : Graph using Android 2D – Graphics**

- **Assignment 9 Google Drive Uploaded Link :**
  https://drive.google.com/drive/folders/17jT9Fwf9wFzWmPLm3Pd8-ddp36hywQRo?usp=sharing

- **GitHub Private Repository Link :**
  https://github.com/NavinduMadusanka/Assignment9-MIT3206-22550119.git

- **Student Name : K.N.M. Dias**
- **Student Index No : 22550119**
- **Student Registration No : 2022/MIT/011**



Assignment9-MIT3206-22550119

Assignment 9 : Graph using Android 2D - Graphics

Below is a summary of what I have learned and focused on in this assignment.

1. **Android Components**

- **API level**

Android Version	API Level	Version Name
Android 7.0	24	Nougat

- **Dependency**

  Dependency in the build.gradle (:app),

  implementation 'com.jjoe64:graphview:4.2.2'

  (implementation libs.graphview)

- **Permissions**

  No special permissions have been granted for this project.

- **Newly learned key points in this assignment**

  Import - import com.jjoe64.graphview.GraphView
  import com.jjoe64.graphview.series.DataPoint
  import com.jjoe64.graphview.series.LineGraphSeries

  - Working with Library - GraphView is an Android framework that allows to construct versatile and attractive diagrams programmatically.
    It is simple to grasp, integrate, and personalize.
  - How to create graph in Android App.

- **tools:targetApi="34" in AndroidMainfest.xml**

- **android.enableJetifier=true in gradle.properties**

2. Functionality of the mobile application

Set the given data points to obtain graph using android 2D-graphics.

3. Layout

Linear Layout

4. Running the Application on my android mobile device

I was running the android app for testing in my android mobile device.

My android mobile device is Realme X2 RMX1993.

Below is a Screenshot of my android mobile device (Realme X2 RMX1993) while the app was running.

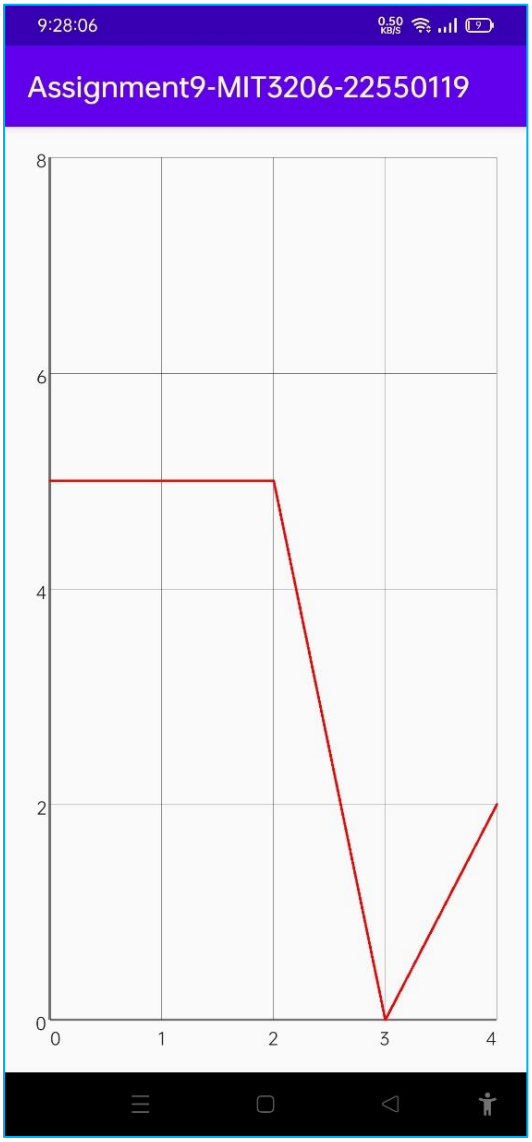


Photo : Assignment9-MIT3206-22550119 in Realme X2 RMX1993

5. Main Coding files

- **MainActivity.java**

```
package com.assignment9_mit3206_22550119;

import android.graphics.Color;
import android.os.Bundle;

import androidx.appcompat.app.AppCompatActivity;

import com.jjoe64.graphview.GraphView;
import com.jjoe64.graphview.series.DataPoint;
import com.jjoe64.graphview.series.LineGraphSeries;

public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        GraphView graph = findViewById(R.id.graph);
        LineGraphSeries<DataPoint> series = new LineGraphSeries<>(new DataPoint[] {
                new DataPoint(0, 5),
                new DataPoint(2, 5),
                new DataPoint(3, 0),
                new DataPoint(4, 2),
        });
        graph.addSeries(series);
        series.setColor(Color.RED);
    }
}
```

- **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"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    android:orientation="vertical"
    android:padding="16sp"
    tools:context=".MainActivity">
    <com.jjoe64.graphview.GraphView
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        app:seriesColor="#ee0000"
```

```
        android:textStyle="bold"
        app:seriesType="line"
        android:id="@+id/graph" />
</LinearLayout>
```

- **build.gradle (:app)**

```
plugins {
    alias(libs.plugins.android.application)
}

android {
    namespace 'com.assignment9_mit3206_22550119'
    compileSdk 34

    defaultConfig {
        applicationId "com.assignment9_mit3206_22550119"
        minSdk 24
        targetSdk 34
        versionCode 1
        versionName "1.0"

        testInstrumentationRunner "androidx.test.runner.AndroidJUnitRunner"
    }

    buildTypes {
        release {
            minifyEnabled false
            proguardFiles getDefaultProguardFile('proguard-android-optimize.txt'), 'proguard-
rules.pro'
        }
    }
    compileOptions {
        sourceCompatibility JavaVersion.VERSION_1_8
        targetCompatibility JavaVersion.VERSION_1_8
    }
}

dependencies {

    implementation libs.appcompat
    implementation libs.material
    implementation libs.activity
    implementation libs.constraintlayout
    testImplementation libs.junit
    androidTestImplementation libs.ext.junit
```

```
    androidTestImplementation libs.espresso.core
    implementation libs.graphview
}
```

- **gradle.properties**

```
# Project-wide Gradle settings.
# IDE (e.g. Android Studio) users:
# Gradle settings configured through the IDE *will override*
# any settings specified in this file.
# For more details on how to configure your build environment visit
# http://www.gradle.org/docs/current/userguide/build_environment.html
# Specifies the JVM arguments used for the daemon process.
# The setting is particularly useful for tweaking memory settings.
org.gradle.jvmargs=-Xmx2048m -Dfile.encoding=UTF-8
# When configured, Gradle will run in incubating parallel mode.
# This option should only be used with decoupled projects. For more details, visit
# https://developer.android.com/r/tools/gradle-multi-project-decoupled-projects
# org.gradle.parallel=true
# AndroidX package structure to make it clearer which packages are bundled with the
# Android operating system, and which are packaged with your app's APK
# https://developer.android.com/topic/libraries/support-library/androidx-rn
android.useAndroidX=true
# Enables namespacing of each library's R class so that its R class includes only the
# resources declared in the library itself and none from the library's dependencies,
# thereby reducing the size of the R class for that library
android.nonTransitiveRClass=true
android.enableJetifier=true
```

- **AndroidMainfest.xml**

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools">

    <application
        android:allowBackup="true"
        android:dataExtractionRules="@xml/data_extraction_rules"
        android:fullBackupContent="@xml/backup_rules"
        android:icon="@mipmap/ic_launcher"
        android:label="Assignment9-MIT3206-22550119"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/AppTheme"
        tools:targetApi="34">
        <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>
```