

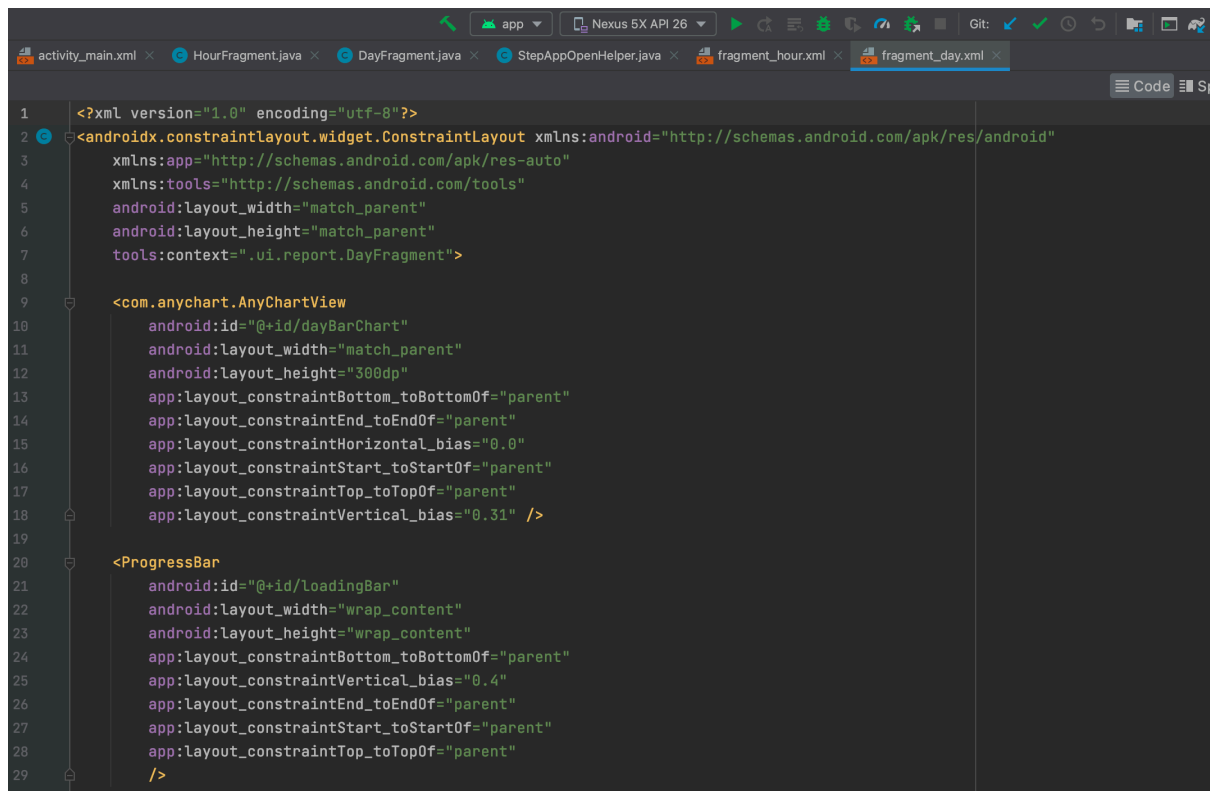
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Assignment 2

GitHub Repository: <https://github.com/bohboh/MWC-Ass2>

Added the Chart and the ProgressBar in the fragment_day.xml



```
1  <?xml version="1.0" encoding="utf-8"?>
2  <androidx.constraintlayout.widget.ConstraintLayout xmlns:android="http://schemas.android.com/apk/res/android"
3      xmlns:app="http://schemas.android.com/apk/res-auto"
4      xmlns:tools="http://schemas.android.com/tools"
5      android:layout_width="match_parent"
6      android:layout_height="match_parent"
7      tools:context=".ui.report.DayFragment">
8
9      <com.anychart.AnyChartView
10         android:id="@+id/dayBarChart"
11         android:layout_width="match_parent"
12         android:layout_height="300dp"
13         app:layout_constraintBottom_toBottomOf="parent"
14         app:layout_constraintEnd_toEndOf="parent"
15         app:layout_constraintHorizontal_bias="0.0"
16         app:layout_constraintStart_toStartOf="parent"
17         app:layout_constraintTop_toTopOf="parent"
18         app:layout_constraintVertical_bias="0.31" />
19
20      <ProgressBar
21         android:id="@+id/loadingBar"
22         android:layout_width="wrap_content"
23         android:layout_height="wrap_content"
24         app:layout_constraintBottom_toBottomOf="parent"
25         app:layout_constraintVertical_bias="0.4"
26         app:layout_constraintEnd_toEndOf="parent"
27         app:layout_constraintStart_toStartOf="parent"
28         app:layout_constraintTop_toTopOf="parent"
29     />
```

StepAppOpenHelper loadStepsByDay method implemented

```
psByDay
activity_main.xml x HourFragment.java x DayFragment.java x StepAppOpenHelper.java x fragment_hour.xml x fragment_day.xml x
168
169 /**
170  * Utility function to get the number of steps by day
171  *
172  * @param context: application context
173  * @return map: map with key-value pairs hour->number of steps
174  */
175 //
176 @ public static Map<String, Integer> loadStepsByDay(Context context){
177
178     // 1. Define a map to store the hour and number of steps as key-value pairs
179     Map<String, Integer> map = new TreeMap<>();
180
181     // 2. Get the readable database
182     StepAppOpenHelper databaseHelper = new StepAppOpenHelper(context);
183     SQLiteDatabase database = databaseHelper.getReadableDatabase();
184
185     // 3. Define the query to get the data
186     Cursor cursor = database.rawQuery( sql: "SELECT day, COUNT(*) FROM num_steps " +
187         "GROUP BY day ORDER BY day ASC ", new String [] {});
188
189     // 4. Iterate over returned elements on the cursor
190     cursor.moveToFirst();
191     for (int index=0; index < cursor.getCount(); index++){
192         String tmpKey = cursor.getString( columnIndex: 0);
193         Integer tmpValue = Integer.parseInt(cursor.getString( columnIndex: 1));
194
195         //2. Put the data from the database into the map
196         map.put(tmpKey, tmpValue);
197
198         cursor.moveToNext();
199     }
200
201     // 5. Close the cursor and database
202     cursor.close();
203     database.close();
204
205     // 6. Return the map with hours and number of steps
206     return map;
207 }
208
209 }
```

Day Fragment

```
activity_main.xml × HourFragment.java × DayFragment.java × StepAppOpenHelper.java × fragment_hour.xml × fragment_day.xml ×
52 @Override
53 public View onCreateView(LayoutInflater inflater, ViewGroup container,
54 Bundle savedInstanceState) {...}
74
75 public Cartesian createColumnChart(){
76 //***** Read data from SQLiteDatabase *****/
77 // Get the map with hours and number of steps for today
78 // from the database and initialize it to variable stepsByHour
79
80 stepsByDay = StepAppOpenHelper.loadStepsByDay(this.getContext());
81
82 //***** Create column chart using AnyChart Library *****/
83 Cartesian cartesian = AnyChart.column();
84
85 List<DataEntry> data = new ArrayList<>();
86
87 for (Map.Entry<String,Integer> entry : stepsByDay.entrySet())
88 data.add(new ValueDataEntry(entry.getKey(), entry.getValue()));
89
90 Column column = cartesian.column(data);
91
92 //***** Modify the UI of the chart *****/
93
94 column.fill("#1EB980");
95 column.stroke("#1EB980");
96
97 column.tooltip()
98 .titleFormat("By day: {X}")
99 .format("{%Value}{groupsSeparator: } Steps")
100 .anchor(Anchor.RIGHT_TOP)
101 .position(Position.RIGHT_TOP)
102 .offsetX(0d)
103 .offsetY(5);
104
105
106 cartesian.tooltip().positionMode(TooltipPositionMode.POINT);
107 cartesian.interactivity().hoverMode(HoverMode.BY_X);
108 cartesian.yScale().minimum(0);
109
110
111 cartesian.background().fill("#00000000");
112 cartesian.xAxis( index: 0).title("Number of steps");
113 cartesian.yAxis( index: 0).title("Day");
114 cartesian.animation(true);
115
116 return cartesian;
117 }
```