

5COSC023W - Tutorial 10 Exercises

The Weather App

1. Implement the weather application developed in the lecture.
2. Finish the “Historical data” functionality which we started in the lecture. The application will be persisting the current temperature and city in the `City` table every time the button “Get Weather” is pressed. A second button labelled “Historical Data” will present in a new activity the history of temperatures and the corresponding dates for the city shown in the first activity.

The full code for this has already been published (see the link in the lecture slides) but you should aim to finish the code in your own way of implementation.

Note: All the times reported are in UK time (currently GMT+1), therefore a time such as sunset in Paris reported by the app as 19:20 should be converted to the local time (France) by adding 1 hour. This is because the time in France is one hour ahead of UK. This means that local (French) time for sunset is 20:20.

3. Extend the weather application so that it displays some alternative icons from the following website.

https://www.flaticon.com/search?word=weather&order_by=4&type=icon

You need to download them locally in Android Studio and associate them with the current status of the weather (*hint*: search for substring of the current status, e.g. if the status contains “cloud” then it should be associated with an image displaying clouds).

4. Extend the application so that it displays the average temperature for each month for a given city. E.g. London, January: 8, February 9, etc. For this you will need to populate your table with sufficient data, either by hardcoding these data in your program or use the Database Inspector tool of Android Studio to insert additional data using the appropriate SQL queries.

You can try to calculate the averages programmatically (not using SQL queries).