Programming Tasks for TinySQL

Task 1

Please write a program to sample light and temperature every 2 seconds from all the nodes in the network and transmit the samples with their nodeid to the base station.

Task 2

Please write a program to collect average temperature readings from nodes that have the same light level. Light levels are computed by dividing raw light sensor readings by 100. Light and temperature are sampled every 3 seconds.

For example, assume the nodes get the following readings during one period:

Nid	Light	Temp
0	120	200
1	180	100
2	234	500
3	225	700

In this case, nodes 0 and 1 should be grouped together because they have light level 1, nodes 2 and 3 should be grouped together because they have light level 2. Results returned to the base station will show the average temperature is 150 for group with light level 1 and 600 for group with light level 2.

Task 3

Please write a program to sample temperature every 2 seconds from all the nodes. Collect the nodeid and current temperature readings from nodes whose temperature readings have increased by more than 10% during the last 10 seconds. In other words, the value of the current temperature sample is larger than 1.1× of the minimal sample among the preceding 4 samples.