IoT Assignment in C++

Time : 3 Hrs

What is OPC-UA?

OPC Unified Architecture (OPC UA) is a machine to machine communication protocol for industrial automation developed by the OPC Foundation.

OPC UA uses scalable platforms, multiple security models, multiple transport layers and a sophisticated information model to allow the smallest dedicated controller to freely interact with complex, high-end server applications. OPC UA can communicate anything from simple downtime status to massive amounts of highly complex plant-wide information.

OPC-UA Library in C++

https://github.com/FreeOpcUa/freeopcua

Scry OPC-UA Simulation Server

IP : 18.217.202.240
PORT : 4840

Questions :

1) We have a simulated OPC UA Server at Scry Analytics which is hosted at the above IP address. Using the C++ Library, fetch the important details about the server like UPTIME, LaunchTime and Properties.
2) Using the OPC-UA C++ library, analyse which kind of device is Simulated. Access different telemetry components of the Simulated Device, along with its DeviceID.
3) Maintain a log file, which shows all the telemetry received every second from the OPC UA Server. Please attach this log file with submission.

Data Structure Question in C++

List all the numbers between [X, Y] such that the consecutive sum from X can be achieved as Y

Example :

Test Case 1:

[X,Y] = [1,15] will output [1,4,7,15]

Explanation : If we start from 1, and add consecutively till 5, then the added result is 15

1+2+3+4+5 = 15

Similarly, If we start from 4, and add consecutively till 6, then the added result is 15

4+5+6=15

Similarly, If we start from 7, and add consecutively till 8, then the added result is 15

7+8=15

Similarly, If we start from 15, and add consecutively till 15, then the added result is 15

15=15

Test Case 2:

[X,Y] = [1,10] will output [1,10]

Explanation : If we start from 1 and add consecutively till 4, then the added result is 10

1+2+3+4 = 10

Similarly, If we start from 10, and add consecutively till 10, then the added result is 10

10=10