Internet Protocol Term Project:

SNMPv2 client implementation as an Android application

1. Programming environments
   - Android (JAVA, **no JNI**)
     - Specify the Android version on your report
   - A SNMP server agent (a networked camera) will be provided on the network for the functional testing of your application

   - Use of SNMP4j (or any) library is **not** allowed
     - But for the BER encoder part, you will be provided with a source code
     - You can refer to the SNMPj4 library, but Copy & Paste is not allowed (or **0 points** will be given for the implementation)

2. Functions to be implemented on the client application
   - **Snmpget**: retrieve the value of a managed object using SNMP GET message
   - **Snmpset**: sets the value of a managed object using SNMP SET message
   - **Snmpwalk**: retrieve a subtree of managed objects using SNMP GETNEXT message
   - Input and output interfaces

3. SNMP server agent information
   - Host name: **kuwiden.iptime.org**
   - Port: **11161**
   - Community string for read operation: **public**
   - Community string for write operation: **write**

4. Report
   - SNMPv2 packet format description
   - Descriptions of how you make, send, receive, and parse a SNMPv2 packet
     - Discuss here any problems, solutions to the problems, and references you used, etc.
     - If there is no mention of the **references** you used, it will be regarded as **cheating**.
   - Descriptions of the environments, classes, and application call flow
   - Comments in each Class, Function, Thread, etc. of your source code
   - Image capture of the functional testing of get, set, and walk
     - Describe what's happening in the image capture
     - In case of **snmpwalk**, make a log file that shows all traversed MIB table entries and their values

5. Evaluation
   - Scoring will be based on the **report.**

6. Android application example
   - The following is just an example. You can freely design the screen. But,
   - It should be able to receive OIDs, VALUEs, and functions as inputs.
   - It should print results of function execution to the screen.

7. Functional testing example (on Linux) - FYI
   - *snmpget*

```
han@han-virtual-machine:~/won_practice$ snmpget -v 2c -c public kuwiden.iptime.org:11161 1.3.6.1.2.1.2.2.1.7.1
iso.3.6.1.2.1.2.2.1.7.1 = INTEGER: 2
```

   - *snmpset*

```
han@han-virtual-machine:~/won_practice$ snmpset -v 2c -c write kuwiden.iptime.org:11161 1.3.6.1.2.1.2.2.1.7.1 i 1
iso.3.6.1.2.1.2.2.1.7.1 = INTEGER: 1
```

   - *snmpwalk*

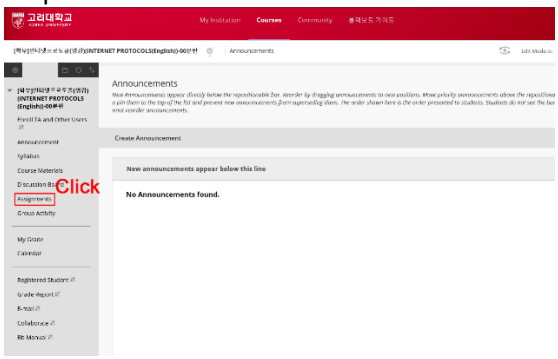
```
han@han-virtual-machine:~/won_practice$ snmpwalk -c public -v 2c kuwiden.iptime.org:11161
iso.3.6.1.2.1.1.1.0 = STRING: "Hanwha WiseNet IP Camera"
iso.3.6.1.2.1.1.2.0 = OID: iso.3.6.1.4.1.36849.1.2.377
iso.3.6.1.2.1.1.3.0 = Timeticks: (31349) 0:05:13.49
iso.3.6.1.2.1.1.4.0 = STRING: "Me <me@somewhere.org>"
iso.3.6.1.2.1.1.5.0 = STRING: "XNP-6040H"
iso.3.6.1.2.1.1.6.0 = STRING: "Right here, right now."
iso.3.6.1.2.1.1.8.0 = Timeticks: (2) 0:00:00.02
iso.3.6.1.2.1.1.9.1.2.1 = OID: iso.3.6.1.6.3.1
iso.3.6.1.2.1.1.9.1.2.2 = OID: iso.3.6.1.6.3.16.2.2.1
iso.3.6.1.2.1.1.9.1.2.3 = OID: iso.3.6.1.6.3.11.3.1.1
iso.3.6.1.2.1.1.9.1.2.4 = OID: iso.3.6.1.6.3.15.2.1.1
iso.3.6.1.2.1.1.9.1.2.5 = OID: iso.3.6.1.6.3.10.3.1.1
iso.3.6.1.2.1.1.9.1.3.1 = STRING: "The MIB module for SNMPv2 entities"
iso.3.6.1.2.1.1.9.1.3.2 = STRING: "View-based Access Control Model for SNMP."
iso.3.6.1.2.1.1.9.1.3.3 = STRING: "The MIB for Message Processing and Dispatching."
```

8. Submit your source code to Blackboard.
   - File name format: StudentNumber_Name.zip, StudentNumber_Name.docx
   - Upload the source code and the report to “Assignments” on the Blackboard system.
   - Follow these steps:
     - Step1: Log in https://kulms.korea.ac.kr/

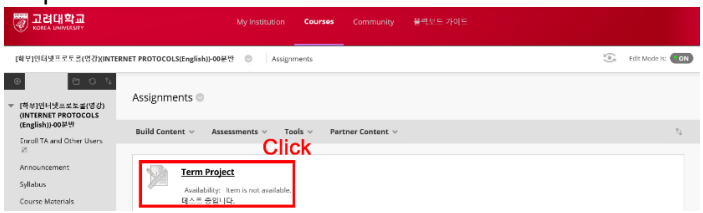
- Step2:

- Step3:

- Step4:



- Step5:



- Step6: