Computer Network Assignment 3.1

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1. Soruce Code:

import websocket  
import json  
import ast  
try:  
 import thread  
except ImportError:  
 import \_thread as thread  
import time  
websocket.WebSocket  
def on\_message(ws, message):  
 message = ast.literal\_eval(message.decode('utf-8'))  
  
 if message["type"] == "orderbook":  
 a = "ask\_price: " + str(message["orderbook\_units"][0]["ask\_price"])  
 b = "bid\_price: " + str(message["orderbook\_units"][0]["bid\_price"])  
 c = "ask\_size: " + str(message["orderbook\_units"][0]["ask\_size"])  
 d = "bid\_size: " + str(message["orderbook\_units"][0]["bid\_size"])  
 print(a,b,c,d)  
 elif message["type"] == "trade":  
 a = "trade\_price: " + str(message["trade\_price"])  
 b = "trade\_volume: " + str(message["trade\_volume"])  
 c = "ask\_bid: " + str(message["ask\_bid"])  
 print(a,b,c)  
  
  
  
  
  
def on\_error(ws, error):  
 print(error)  
  
def on\_close(ws):  
 print("### closed ###")  
  
def on\_open(ws):  
 def run(\*args):  
  
  
 ws.send('[{"ticket":"UNIQUE\_TICKET"},'  
 '{"type":"trade","codes":["KRW-BTC"]},'  
 '{"type":"orderbook","codes":["KRW-BTC"]}]')  
  
 thread.start\_new\_thread(run, ())  
  
  
if \_\_name\_\_ == "\_\_main\_\_":  
 websocket.enableTrace(True)  
 ws = websocket.WebSocketApp("wss://api.upbit.com/websocket/v1",  
 on\_message = on\_message,  
 on\_error = on\_error,  
 on\_close = on\_close)  
 ws.on\_open = on\_open  
 ws.run\_forever()

1. Output:

trade\_price: 8560000.0 trade\_volume: 1.07662286 ask\_bid: ASK

ask\_price: 8562000.0 bid\_price: 8560000.0 ask\_size: 0.00378948 bid\_size: 0.38310592

trade\_price: 8560000.0 trade\_volume: 0.38310592 ask\_bid: ASK

trade\_price: 8554000.0 trade\_volume: 0.08114858 ask\_bid: ASK

trade\_price: 8554000.0 trade\_volume: 0.05 ask\_bid: ASK

trade\_price: 8554000.0 trade\_volume: 0.23380874 ask\_bid: ASK

trade\_price: 8554000.0 trade\_volume: 0.42098048 ask\_bid: BID

ask\_price: 8562000.0 bid\_price: 8560000.0 ask\_size: 0.00378948 bid\_size: 0.38310592

ask\_price: 8554000.0 bid\_price: 8553000.0 ask\_size: 0.42098048 bid\_size: 0.89142055

ask\_price: 8560000.0 bid\_price: 8553000.0 ask\_size: 0.001435 bid\_size: 0.89142055