Assignment 1.1

ENE 419 – Computer Networks

DUE: Oct. 24. *Submit in Class*

Programming Assignment (Application-layer, version 1)

You will create a chat-bot program that can collect Bit Coin prices from major exchanges and notify a user. Your program should be named as 'coin-studentid.py'. It consists of two parts:

A. Requesting Bit Coin prices every 60 seconds via http request api from cryptocompare.com or similar services that you can find on your own.
B. Sending message to you from your telegram chat-bot.

Part A. Request the following Bit Coin prices from two exchanges: Bithumb in KRW and Bitfinex in USD. Please refer to crytocompare api instruction for 'price' or 'pricemulti' option: (if you want, you can use other similar api services)

https://www.cryptocompare.com/api/#-api-data-price-

To request data, please refer to the following instruction:

http://docs.python-requests.org/en/master/user/quickstart/

Its request should be made every minute continuously. Please refer to the following instruction. You can find more APS scheduler examples on Google. Alternatively, you can use crontab or threading timer.

http://apscheduler.readthedocs.io/en/latest/userguide.html

The collected information should be stored to csv file or database like https://www.influxdata.com/. It is similar to the following: ('BTC' refer to Bit Coin)

```
$more price.csv

Date, Bitfinex-BTC-USD,Bithumb-BTC-KRW
2017-08-30-00:00, 4567.8, 5053000
2017-08-30-00:01, 4572.7, 5056000
2017-08-30-00:02, 4582.7, 5055000
2017-08-30-00:03, 4582.7, 5053000
…
```

Part B. Send text message to your telegram using chat-bot. To do this, create your telegram chat-bot and send pricing up/down information every minute as well.
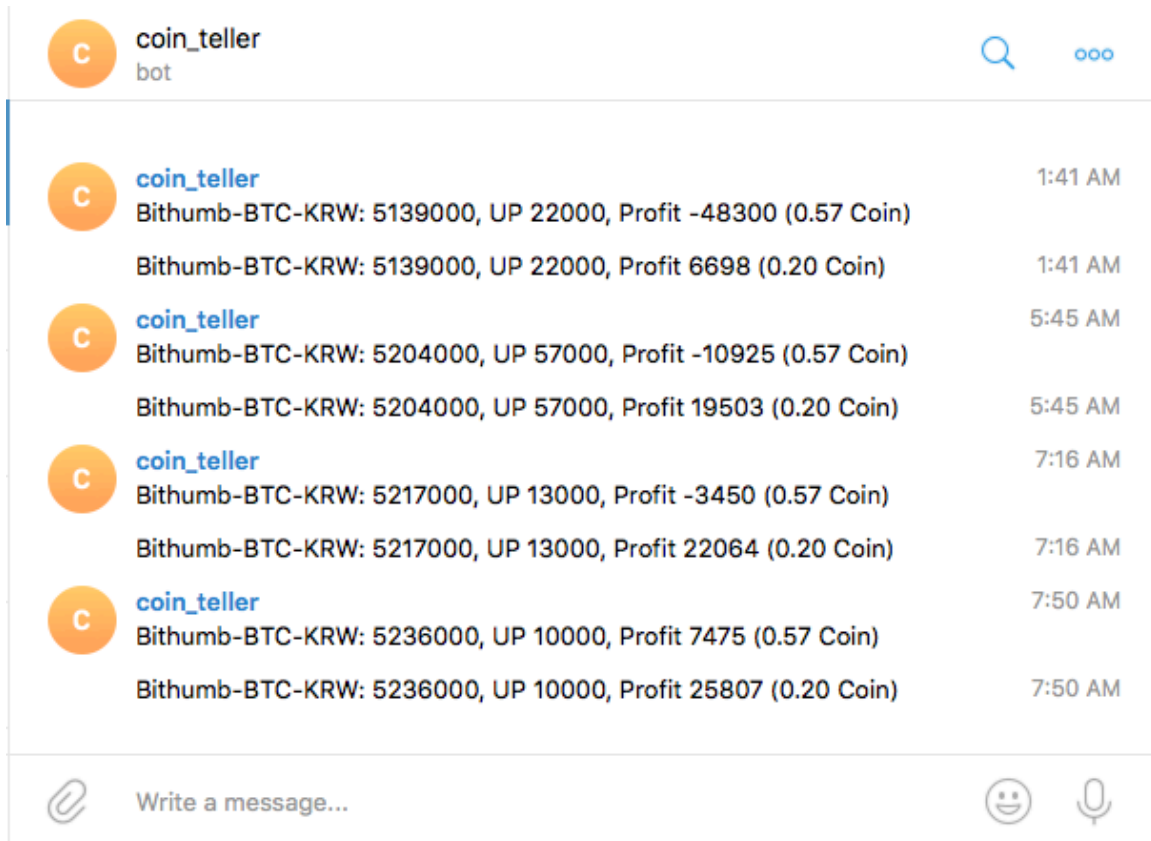
Telegram chat-bot instruction: (please refer to BotFather)

https://core.telegram.org/bots

Recommended chat-bot api:

http://telepot.readthedocs.io/en/latest/

You need to create 'TOKEN' in order to send a message. You can do this manually for now. Read these instructions carefully. And your telegram chat window should be similar to the following:

NOTE:

1. Python is recommended. If you are willing to use other programming languages, that's fine too. But use it at your own risk.
2. Command line base is recommended.
3. Any platform of your choice is fine, but I'd like to see many Linux as possible (e.g., Ubuntu).

SUBMISSION:

1. Print out your source code – "coin-studentid.py"
2. Print out the screenshot of your telegram window.
3. Write one paragraph explaining your program and any difficulties you had.

Do your best. Even if you can't do the whole assignment, submit as much as you can (with explanation why you can't do this). If you get caught cheating, I will deduct your other assignment marks. And to make sure that you do your own assignment, I will randomly select a few students in class and ask them to explain their code.

TRIVIA:

Google is your friend and teacher. Search!

Discuss with your classmates! (DO NOT send me an email first)

I will go over the assignment in class, so don't worry too much.