INTRO. TO INTERNET LAB 1

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How to run this project

- unzip `108062138_lab1.zip` to obtain `TCP_echo_client.c` , `makefile` , `run.sh` (`run.sh` is not necessary)

```
t-Name:~/Desktop/tmp$ unzip 108062138_lab1.zip
  Archive:  108062138_lab1.zip
   extracting: run.sh
     inflating: makefile
     inflating: TCP_echo_client.c
```

- Compile `TCP_echo_client.c` by the command `make` . The following code is the content in the makefile.

```
popo@popo-System-Product-Name:~/Desktop/tmp$ make
gcc TCP_echo_client.c -o TCP_client.o
```

```
1   all: compileClient
2
3   compileClient: TCP_echo_client.c
4           gcc TCP_echo_client.c -o TCP_client.o
5
6   clean:
7           rm *.o
```

- type `./TCP_client.o TARGETURL` to execute the object file. This object file eats one argument `TARGETURL` . `TARGETURL` is the url your want to get the hyperlinks.
  - Note that this step may take a while, since I use `MSG_WAITALL` to receive all the html content.

```
popo@popo-System-Product-Name:~/Desktop/tmp$ ./TCP_client.o can.cs.nthu.edu.tw/index.php
----------
Request:
----------
GET /index.php HTTP/1.1
Host: can.cs.nthu.edu.tw
```

  - After about 30 seconds(it depends on your internet quality), it can output the result:

```
http://www.highimpact-seo.co.uk/
popo@popo-System-Product-Name:~/Desktop/tmp$ ./TCP_client.o can.cs.nthu.edu.tw/index.php
----------
Request:
----------
GET /index.php HTTP/1.1
Host: can.cs.nthu.edu.tw


======== Hyperlinks ========
index.php
members.php
LAB/
gallery.php
contact.php
http://web.cs.nthu.edu.tw/files/14-1015-143485,r109-1.php?Lang=zh-tw
http://www.nthu.edu.tw
http://web.cs.nthu.edu.tw/bin/home.php
http://www.com.nthu.edu.tw/
http://www.highimpact-seo.co.uk/
popo@popo-System-Product-Name:~/Desktop/tmp$
```

- These terminal output are composed by two compoments: request and hyperlinks.
    - The request part is get request to the `index.php` undere HTTP/1.1 to the hostname(**can.cs.nthu.edu.tw** (http://can.cs.nthu.edu.tw)).
    - The hyperlinks parts are the hyperlinks inside `can.cs.nthu.edu.tw/index.php` .

```
 1    ----------
 2    Request:
 3    ----------
 4    GET /index.php HTTP/1.1
 5    Host: can.cs.nthu.edu.tw
 6
 7
 8    ======== Hyperlinks ========
 9    index.php
10    members.php
11    LAB/
12    gallery.php
13    contact.php
14    http://web.cs.nthu.edu.tw/files/14-1015-143485,r109-1.php?Lang=zh-tw
15    http://www.nthu.edu.tw
16    http://web.cs.nthu.edu.tw/bin/home.php
17    http://www.com.nthu.edu.tw/
18    http://www.highimpact-seo.co.uk/
```

self check requirement:

- ☑ gcc
- ☑ screenshot to show how it works just like the examples in this document
- ☑ can handle `can.cs.nthu.edu.tw/index.php`