

Lab 0 Writeup

My name: 王聪颖

My Student number : 211220180

This lab took me about 5 hours to do. I did attend the lab session.

My secret code from section 2.1 was: [code here]

1. Program Structure and Design:

首先创建一个TCP套接字sock

```
TCPSocket sock;
```

通过host和service--"http"构建Address,并使用sock连接至对应主机的http服务端口

```
sock.connect(Address(host, "http"));
```

通过sock向服务器发送相应格式的http请求报文 PS: 如果请求报文较长或使用次数多, 可以考虑根据报文结构进行拆分构建字符串, 从而提高效率和代码可读性, 此处由于只使用一次且报文较短, 故直接一行拼接了事

```
sock.write("GET " + path + " HTTP/1.1\r\nHost: " + host + "\r\nConnection: close\r\n\r\n");
```

输出从服务器收到的所有内容

```
while (!sock.eof()) { cout << sock.read(); }
```

最后关闭套接字

```
sock.close();
```

2. Implementation Challenges:

配置项目时, 编译出现了部分变量名 (如 out_of_range) 未定义报错, 查询资料后发现变量定义在库头文件 <stdexcept>中 在buffer.hh中添加如下include解决

```
#include <stdexcept>
```

代码部分没有遇到什么困难, 较为繁琐的部分是查询http请求报文格式

3. Remaining Bugs:

本次实验测试全部通过，无遗留bug

```
oslab@oslab-virtual-machine:~/Desktop/lab0-2023autumn-HistoriaY/sponge/build$ make check_webget
[100%] Testing webget...
Test project /home/oslab/Desktop/lab0-2023autumn-HistoriaY/sponge/build
  Start 28: t_webget
1/1 Test #28: t_webget ..... Passed    0.03 sec

100% tests passed, 0 tests failed out of 1

Total Test time (real) =  0.03 sec
[100%] Built target check_webget
```

More details and requirements of sections above can be found in [lab0_tutorials.pdf/4.submit](#)