

Exercise3 :

Q1 :

Status Code: 200 OK

[Status Code Description: OK]

Time	Source	Destination	Protocol	Length	Info
10 4.694850	192.168.1.102	128.119.245.12	HTTP	555	GET /ethereal-labs/lab2-1.html HTTP/1.1
12 4.718993	128.119.245.12	192.168.1.102	HTTP	439	HTTP/1.1 200 OK (text/html)

Q2 :

Last-Modified: Tue, 23 Sep 2003 05:29:00 GMT\r\n

response contains a date header, but request doesn't contain a date header. This is the difference between these two fields.

```
Last-Modified: Tue, 23 Sep 2003 05:29:00 GMT\r\n
```

Q3 :

the connection established between the browser and the server is persistent. Because the connect option is keep-alive.

Q4:

73bytes

```
Content-Length: 73\r\n
```

Q5:

Congratulations. You've downloaded the file lab2-1.html!

```
✓ Line-based text data: text/html
<html>\n
Congratulations. You've downloaded the file lab2-1.html!\n
</html>\n
```

Exercise 4:

Q1:

There is no "IF-MODIFIED-SINCE" line in the HTTP GET

```

TCP payload (501 bytes)
v Hypertext Transfer Protocol
  > GET /ethereal-labs/lab2-2.html HTTP/1.1\r\n
    > [Expert Info (Chat/Sequence): GET /ethereal-labs/lab2-2.html HTTP/1.1\r\n]
      Request Method: GET
      Request URI: /ethereal-labs/lab2-2.html
      Request Version: HTTP/1.1
      Host: gaia.cs.umass.edu\r\n
      User-Agent: Mozilla/5.0 (Windows; U; Windows NT 5.1; en-US; rv:1.0.2) Gecko/20021120 Netscape/7.01\r\n
      Accept: text/xml,application/xml,application/xhtml+xml,text/html;q=0.9,text/plain;q=0.8,video/x-mng,image/png,imag
      Accept-Language: en-us, en;q=0.50\r\n
      Accept-Encoding: gzip, deflate, compress;q=0.9\r\n
      Accept-Charset: ISO-8859-1, utf-8;q=0.66, *;q=0.66\r\n
      Keep-Alive: 300\r\n
      Connection: keep-alive\r\n
      \r\n
      [Full request URI: http://gaia.cs.umass.edu/ethereal-labs/lab2-2.html]
      [HTTP request 1/2]
      [Response in frame: 10]
      [Next request in frame: 14]

```

Q2:

the response indicate the last time that the requested file was modified

```

Hypertext Transfer Protocol
> HTTP/1.1 200 OK\r\n
  Date: Tue, 23 Sep 2003 05:35:50 GMT\r\n
  Server: Apache/2.0.40 (Red Hat Linux)\r\n
  Last-Modified: Tue, 23 Sep 2003 05:35:00 GMT\r\n

```

Q3:

an "IF-MODIFIED-SINCE:" line in the HTTP GET.

The date was contained in the header.

```

Hypertext Transfer Protocol
> GET /ethereal-labs/lab2-2.html HTTP/1.1\r\n
  Host: gaia.cs.umass.edu\r\n
  User-Agent: Mozilla/5.0 (Windows; U; Windows NT 5.1; en
  Accept: text/xml,application/xml,application/xhtml+xml,
  Accept-Language: en-us, en;q=0.50\r\n
  Accept-Encoding: gzip, deflate, compress;q=0.9\r\n
  Accept-Charset: ISO-8859-1, utf-8;q=0.66, *;q=0.66\r\n
  Keep-Alive: 300\r\n
  Connection: keep-alive\r\n
  If-Modified-Since: Tue, 23 Sep 2003 05:35:00 GMT\r\n
  If-None-Match: "1bfef-173-8f4ae900"\r\n
  Cache-Control: max-age=0\r\n

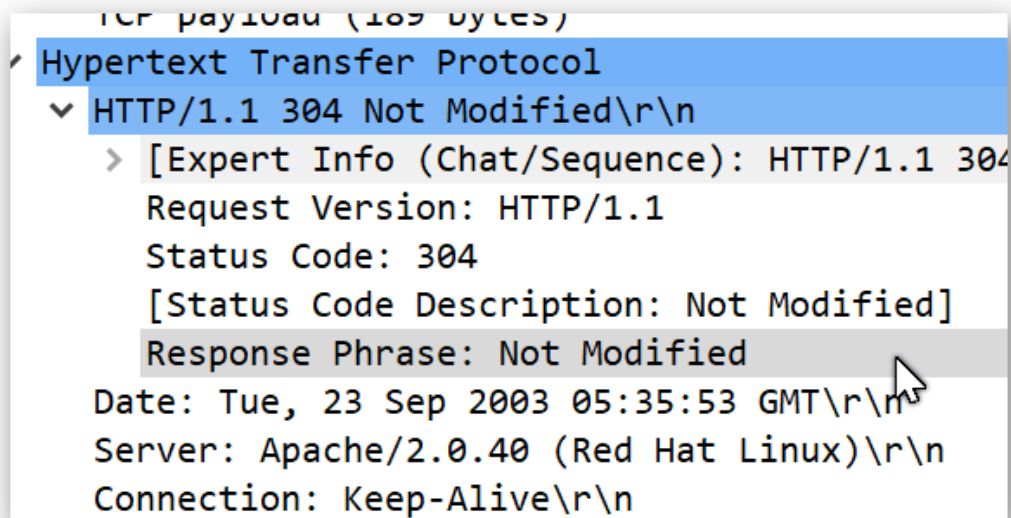
```

Q4:

Status Code: 304

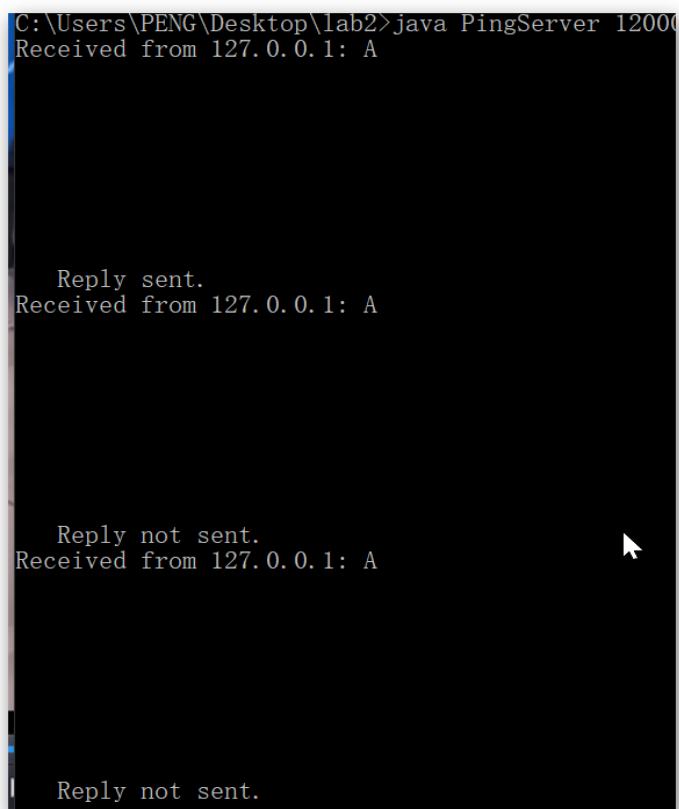
[Status Code Description: Not Modified]

the server doesn't explicitly return the contents of the file, because it shows that response is not modified.



Exercise 5:

server:



client:

```
Ping to 127.0.0.1, seq = 0, rrt = 125ms  
Resquest time out  
Resquest time out  
Ping to 127.0.0.1, seq = 3, rrt = 183ms  
Resquest time out  
Ping to 127.0.0.1, seq = 5, rrt = 10ms  
Ping to 127.0.0.1, seq = 6, rrt = 163ms  
Resquest time out  
Ping to 127.0.0.1, seq = 8, rrt = 120ms  
Ping to 127.0.0.1, seq = 9, rrt = 157ms
```

code:

```
from socket import *  
import time  
import sys  
  
HOST = '127.0.0.1'  
PORT = 12000  
clientSocket = socket(AF_INET, SOCK_DGRAM)  
  
for i in range(0,10):  
    try:  
        start_time = time.time()  
        clientSocket.sendto(b'A',(HOST, PORT))  
        clientSocket.settimeout(1.0)  
        message, address = clientSocket.recvfrom(1024)  
        end_time = time.time()  
        print('Ping to 127.0.0.1, seq = {}, rrt = {}ms'.format(i,int(1000*(end_time-start_time))))  
    except timeout:  
        print('Resquest time out')
```