

### Exercise 3

1.

Status code: 200, Phrase returned from server: OK

2.

The HTML file was modified last time was on Tue, 23 Sep 2003 05 : 29 : 00 GMT

The response also contains DATE header.

DATE header is the time when date was sent. Last modified date is the time when this HTML file was modified last time.

3.

The connection established is persistent, because it used HTTP1.1 and connection field is keep alive

4.

73 bytes of content, because Content-Length field is 73

5.

Data contained: text/html (3 lines)

<html>\n

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

</html>\n

### Exercise 4

1.

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

2.

Yes, Last-Modified: Tue, 23 Sep 2003 05:35:00 GMT

3.

Yes, IF-MODIFIED-SINCE field is If-Modified-Since: Tue, 23 Sep 2003 05:35:00 GMT

And IF-NONE-MATCH field is: If-None-Match: "1bfef-173-8f4ae900"

4.

Status code: 304, phrase: Not Modified

Server did not return the content of this file.

This is likely because if the documents is not modified, then server would response with status code 304 without a message body. And client can show the resources from its cache, thus there is no need for server to send message again, which could save bandwidth.

5.

Value of ETag field is: ETag: "1bfef-173-8f4ae900"\r\n.

Etag allows client to make a conditional requests. If the user visit the same site, and then browser will send a request include Etag and Last-Modified. Therefore, server does not need to send full response if content has not changed. And this can make cache more efficient.

ETag has not changed since 1st response message was received.