report.md - Grip

Exercise 3

Question 1

- the status code is "200", the status phrase is "OK"

Question 2

- the response suggests the file was last modified at the server at time "Last-Modified: Tue, 23 Sep 2003 05:29:00 GMT". There is also a date header, "Date: Tue, 23 Sep 2003 05:29:50 GMT ", which is the time that the message originated/was generated.

Question 3

- it is persistent. This can be inferred by the "Connection: keep-alive" field that is present in BOTH the request and response.

Question 4

- 73 bytes of content are being returned by the HTTP server to the browser.

Question 5

- the 73 bytes of content are;

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

Exercise 4

Question 1

- no, there is no if-modified-since line. This makes sense because it is generally not useful for the first request and is more so used only for successive requests for an already requested resource that could have possibly changed.

Question 2

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

Question 3

- yes, "If-Modified-Since: Tue, 23 Sep 2003 05:35:00 GMT" and "If-None-Match: "1bfef-173-8f4ae900"". Important to note, the I-M-S value is the same as the time the resource was last modified ^ - so this is essentially saying to only re-get the resource if it is different from the one that was last received. Furthermore, the I-N-M value seems to be an E-tag (specifically the one from the previous response) and this is also used for the same purpose. Apparently comparing E-tags is more reliable than the time stamps and so this takes precedence if the server supports it.

Question 4

- status is "304", phrase is "Not Modified".
- no, the server did not re-send the contents because they were requested with a conditional get (made conditional by the If-Modified-Since and If-None-Match fields) and the contents hadn't been modified (so no reason to re-send the content).

Question 5

- the Entity tag (E-tag) fields value is "ETag: "1bfef-173-8f4ae900"". This is the same E-tag value as in the previous response. E-tags are like a fingerprint or hash of a specific version of a particular resource and can be compared to see whether two resources are the same. Servers use these to know whether they need to re-send the resource or not (just headers, no content).

Exercise 5

- see .py file, using python3