```
No.
       Time
                          Source
                                                 Destination
                                                                       Protocol Length Info
    10 00:38:41.687542
                          192.168.1.102
                                                 128.119.245.12
                                                                       HTTP
                                                                                555
                                                                                       GET /ethereal-labs/lab2-4.html HTTP/1.1
Frame 10: 555 bytes on wire (4440 bits), 555 bytes captured (4440 bits)
Ethernet II, Src: Dell_4f:36:23 (00:08:74:4f:36:23), Dst: LinksysG_da:af:73 (00:06:25:da:af:73)
Internet Protocol Version 4, Src: 192.168.1.102, Dst: 128.119.245.12
   0100 .... = Version: 4
    .... 0101 = Header Length: 20 bytes (5)
   Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
   Total Length: 541
   Identification: 0x02b1 (689)
   Flags: 0x40, Don't fragment
   ...0 0000 0000 0000 = Fragment Offset: 0
   Time to Live: 128
   Protocol: TCP (6)
   Header Checksum: 0x0000 [validation disabled]
   [Header checksum status: Unverified]
   Source Address: 192.168.1.102
   Destination Address: 128.119.245.12
Transmission Control Protocol, Src Port: 4307, Dst Port: 80, Seq: 1, Ack: 1, Len: 501
   Source Port: 4307
   Destination Port: 80
   [Stream index: 0]
   [Conversation completeness: Incomplete, DATA (15)]
   [TCP Segment Len: 501]
   Sequence Number: 1
                         (relative sequence number)
   Sequence Number (raw): 4246551714
   [Next Sequence Number: 502
                                 (relative sequence number)]
   Acknowledgment Number: 1
                               (relative ack number)
   Acknowledgment number (raw): 2354562744
   0101 .... = Header Length: 20 bytes (5)
   Flags: 0x018 (PSH, ACK)
   Window: 64240
   [Calculated window size: 64240]
   [Window size scaling factor: -2 (no window scaling used)]
   Checksum: 0x39a2 [unverified]
   [Checksum Status: Unverified]
   Urgent Pointer: 0
   [Timestamps]
   [SEQ/ACK analysis]
   TCP payload (501 bytes)
Hypertext Transfer Protocol
   GET /ethereal-labs/lab2-4.html HTTP/1.1\r\n
       [Expert Info (Chat/Sequence): GET /ethereal-labs/lab2-4.html HTTP/1.1\r\n]
       Request Method: GET
       Request URI: /ethereal-labs/lab2-4.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,image/jpeg,image/
gif;q=0.2,text/css,*/*;q=0.1\r\n
   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/lab2-4.html]
   [HTTP request 1/1]
   [Response in frame: 12]
                                                                       Protocol Length Info
                          Source
                                                 Destination
    12 00:38:41.711426
                          128.119.245.12
                                                 192.168.1.102
                                                                       HTTP
                                                                                1057
                                                                                      HTTP/1.1 200 OK (text/html)
Frame 12: 1057 bytes on wire (8456 bits), 1057 bytes captured (8456 bits)
Ethernet II, Src: LinksysG_da:af:73 (00:06:25:da:af:73), Dst: Dell_4f:36:23 (00:08:74:4f:36:23)
Internet Protocol Version 4, Src: 128.119.245.12, Dst: 192.168.1.102
   0100 .... = Version: 4
    .... 0101 = Header Length: 20 bytes (5)
   Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
   Total Length: 1043
   Identification: 0x744b (29771)
   Flags: 0x40, Don't fragment
    ...0 0000 0000 0000 = Fragment Offset: 0
   Time to Live: 55
   Protocol: TCP (6)
   Header Checksum: 0x9407 [validation disabled]
   [Header checksum status: Unverified]
   Source Address: 128.119.245.12
   Destination Address: 192.168.1.102
Transmission Control Protocol, Src Port: 80, Dst Port: 4307, Seq: 1, Ack: 502, Len: 1003
   Source Port: 80
   Destination Port: 4307
```

```
[Stream index: 0]
   [Conversation completeness: Incomplete, DATA (15)]
   [TCP Segment Len: 1003]
                         (relative sequence number)
   Sequence Number: 1
   Sequence Number (raw): 2354562744
   [Next Sequence Number: 1004
                                   (relative sequence number)]
   Acknowledgment Number: 502
                                  (relative ack number)
   Acknowledgment number (raw): 4246552215
   0101 .... = Header Length: 20 bytes (5)
   Flags: 0x018 (PSH, ACK)
   Window: 6432
   [Calculated window size: 6432]
   [Window size scaling factor: -2 (no window scaling used)]
   Checksum: 0xa622 [unverified]
   [Checksum Status: Unverified]
   Urgent Pointer: 0
   [Timestamps]
   [SEQ/ACK analysis]
   TCP payload (1003 bytes)
Hypertext Transfer Protocol
   HTTP/1.1 200 OK\r\n
       [Expert Info (Chat/Sequence): HTTP/1.1 200 OK\r\n]
       Response Version: HTTP/1.1
       Status Code: 200
       [Status Code Description: OK]
       Response Phrase: OK
   Date: Tue, 23 Sep 2003 05:38:44 GMT\r\n
   Server: Apache/2.0.40 (Red Hat Linux)\r\n
   Last-Modified: Tue, 23 Sep 2003 05:38:00 GMT\r\n
   ETag: "1bff9-2b1-9a057e00"\r\n
   Accept-Ranges: bytes\r\n
   Content-Length: 689\r\n
   Keep-Alive: timeout=10, max=100\r\n
   Connection: Keep-Alive\r\n
   Content-Type: text/html; charset=ISO-8859-1\r\n
   \r\n
   [HTTP response 1/1]
    [Time since request: 0.023884000 seconds]
   [Request in frame: 10]
   [Request URI: http://gaia.cs.umass.edu/ethereal-labs/lab2-4.html]
   File Data: 689 bytes
Line-based text data: text/html (17 lines)
No.
       Time
                          Source
                                                 Destination
                                                                       Protocol Length Info
                                                 165.193.123.218
                                                                                       GET /catalog/images/pearson-logo-footer.gif HTTP/
    17 00:38:41.756098
                          192.168.1.102
                                                                       HTTP
                                                                                625
1.1
Frame 17: 625 bytes on wire (5000 bits), 625 bytes captured (5000 bits)
Ethernet II, Src: Dell_4f:36:23 (00:08:74:4f:36:23), Dst: LinksysG_da:af:73 (00:06:25:da:af:73)
Internet Protocol Version 4, Src: 192.168.1.102, Dst: 165.193.123.218
   0100 .... = Version: 4
   .... 0101 = Header Length: 20 bytes (5)
   Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
   Total Length: 611
   Identification: 0x02bf (703)
   Flags: 0x40, Don't fragment
   ...0 0000 0000 0000 = Fragment Offset: 0
   Time to Live: 128
   Protocol: TCP (6)
   Header Checksum: 0x0000 [validation disabled]
   [Header checksum status: Unverified]
   Source Address: 192.168.1.102
   Destination Address: 165.193.123.218
Transmission Control Protocol, Src Port: 4308, Dst Port: 80, Seq: 1, Ack: 1, Len: 571
   Source Port: 4308
   Destination Port: 80
   [Stream index: 1]
   [Conversation completeness: Incomplete, DATA (15)]
   [TCP Segment Len: 571]
   Sequence Number: 1
                         (relative sequence number)
   Sequence Number (raw): 4246632681
   [Next Sequence Number: 572
                                 (relative sequence number)]
   Acknowledgment Number: 1 (relative ack number)
   Acknowledgment number (raw): 1516971432
   0101 .... = Header Length: 20 bytes (5)
   Flags: 0x018 (PSH, ACK)
   Window: 64860
   [Calculated window size: 64860]
    [Window size scaling factor: -2 (no window scaling used)]
   Checksum: 0xe5ff [unverified]
   [Checksum Status: Unverified]
   Urgent Pointer: 0
```

```
[Timestamps]
   [SEQ/ACK analysis]
   TCP payload (571 bytes)
Hypertext Transfer Protocol
   GET /catalog/images/pearson-logo-footer.gif HTTP/1.1\r\n
       [Expert Info (Chat/Sequence): GET /catalog/images/pearson-logo-footer.gif HTTP/1.1\r\n]
       Request Method: GET
       Request URI: /catalog/images/pearson-logo-footer.gif
       Request Version: HTTP/1.1
   Host: www.aw-bc.com\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,image/jpeg,image/
gif;q=0.2,text/css,*/*;q=0.1\r\n
   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
   Referer: http://gaia.cs.umass.edu/ethereal-labs/lab2-4.html\r\n
   [Full request URI: http://www.aw-bc.com/catalog/images/pearson-logo-footer.gif]
   [HTTP request 1/1]
   [Response in frame: 25]
       Time
                           Source
                                                 Destination
                                                                       Protocol Length Info
    20 00:38:41.759416
                          192.168.1.102
                                                 134.241.6.82
                                                                                609
                                                                                       GET /~kurose/cover.jpg HTTP/1.1
Frame 20: 609 bytes on wire (4872 bits), 609 bytes captured (4872 bits)
Ethernet II, Src: Dell 4f:36:23 (00:08:74:4f:36:23), Dst: LinksysG da:af:73 (00:06:25:da:af:73)
Internet Protocol Version 4, Src: 192.168.1.102, Dst: 134.241.6.82
   0100 .... = Version: 4
   .... 0101 = Header Length: 20 bytes (5)
   Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
   Total Length: 595
   Identification: 0x02c1 (705)
   Flags: 0x40, Don't fragment
   ...0 0000 0000 0000 = Fragment Offset: 0
   Time to Live: 128
   Protocol: TCP (6)
   Header Checksum: 0x0000 [validation disabled]
   [Header checksum status: Unverified]
   Source Address: 192.168.1.102
   Destination Address: 134.241.6.82
Transmission Control Protocol, Src Port: 4309, Dst Port: 80, Seq: 1, Ack: 1, Len: 555
   Source Port: 4309
   Destination Port: 80
   [Stream index: 2]
   [Conversation completeness: Complete, WITH_DATA (31)]
   [TCP Segment Len: 555]
   Sequence Number: 1
                         (relative sequence number)
   Sequence Number (raw): 4246666213
   [Next Sequence Number: 556
                                  (relative sequence number)]
   Acknowledgment Number: 1
                                (relative ack number)
   Acknowledgment number (raw): 549578021
   0101 .... = Header Length: 20 bytes (5)
   Flags: 0x018 (PSH, ACK)
   Window: 64240
   [Calculated window size: 64240]
   [Window size scaling factor: -2 (no window scaling used)]
   Checksum: 0x5197 [unverified]
   [Checksum Status: Unverified]
   Urgent Pointer: 0
   [Timestamps]
   [SEQ/ACK analysis]
   TCP payload (555 bytes)
Hypertext Transfer Protocol
   GET /~kurose/cover.jpg HTTP/1.1\r\n
       [Expert Info (Chat/Sequence): GET /~kurose/cover.jpg HTTP/1.1\r\n]
       Request Method: GET
       Request URI: /~kurose/cover.jpg
       Request Version: HTTP/1.1
   Host: manic.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,image/jpeg,image/
gif;q=0.2,text/css,*/*;q=0.1\r\n
   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
   Referer: http://gaia.cs.umass.edu/ethereal-labs/lab2-4.html\r\n
```

```
[Full request URI: http://manic.cs.umass.edu/~kurose/cover.jpg]
   [HTTP request 1/1]
   [Response in frame: 54]
       Time
                           Source
                                                 Destination
                                                                       Protocol Length Info
    25 00:38:41.783667
                          165.193.123.218
                                                 192.168.1.102
                                                                       HTTP
                                                                                912
                                                                                      HTTP/1.1 200 OK (GIF89a)
Frame 25: 912 bytes on wire (7296 bits), 912 bytes captured (7296 bits)
Ethernet II, Src: LinksysG_da:af:73 (00:06:25:da:af:73), Dst: Dell_4f:36:23 (00:08:74:4f:36:23)
Internet Protocol Version 4, Src: 165.193.123.218, Dst: 192.168.1.102
   0100 .... = Version: 4
   .... 0101 = Header Length: 20 bytes (5)
   Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
   Total Length: 898
   Identification: 0x46dd (18141)
   Flags: 0x40, Don't fragment
   ...0 0000 0000 0000 = Fragment Offset: 0
   Time to Live: 50
   Protocol: TCP (6)
   Header Checksum: 0x1aef [validation disabled]
   [Header checksum status: Unverified]
   Source Address: 165.193.123.218
   Destination Address: 192.168.1.102
Transmission Control Protocol, Src Port: 80, Dst Port: 4308, Seq: 2761, Ack: 572, Len: 858
   Source Port: 80
   Destination Port: 4308
   [Stream index: 1]
   [Conversation completeness: Incomplete, DATA (15)]
   [TCP Segment Len: 858]
   Sequence Number: 2761
                             (relative sequence number)
   Sequence Number (raw): 1516974192
   [Next Sequence Number: 3619
                                   (relative sequence number)]
   Acknowledgment Number: 572
                                  (relative ack number)
   Acknowledgment number (raw): 4246633252
   0101 .... = Header Length: 20 bytes (5)
   Flags: 0x018 (PSH, ACK)
   Window: 64860
   [Calculated window size: 64860]
   [Window size scaling factor: -2 (no window scaling used)]
   Checksum: 0xb15e [unverified]
   [Checksum Status: Unverified]
   Urgent Pointer: 0
   [Timestamps]
   [SEQ/ACK analysis]
   TCP payload (858 bytes)
   TCP segment data (858 bytes)
[3 Reassembled TCP Segments (3618 bytes): #22(1380), #23(1380), #25(858)]
Hypertext Transfer Protocol
   HTTP/1.1 200 OK\r\n
       [Expert Info (Chat/Sequence): HTTP/1.1 200 OK\r\n]
       Response Version: HTTP/1.1
       Status Code: 200
       [Status Code Description: OK]
       Response Phrase: OK
   Server: Netscape-Enterprise/3.6 SP3\r\n
   Date: Sun, 21 Sep 2003 06:00:35 GMT\r\n
   Content-type: image/gif\r\n
   Etag: "6fc149-d1d-3ef0b3f8"\r\n
   Last-modified: Wed, 18 Jun 2003 18:48:24 GMT\r\n
   Content-length: 3357\r\n
   Accept-ranges: bytes\r\n
   Connection: keep-alive\r\n
   \r\n
   [HTTP response 1/1]
   [Time since request: 0.027569000 seconds]
   [Request in frame: 17]
   [Request URI: http://www.aw-bc.com/catalog/images/pearson-logo-footer.gif]
   File Data: 3357 bytes
Compuserve GIF, Version: GIF89a
                                                                       Protocol Length Info
       Time
                          Source
                                                 Destination
    54 00:38:42.040490
                          134.241.6.82
                                                 192.168.1.102
                                                                       HTTP
                                                                                1096 HTTP/1.0 200 Document follows (JPEG JFIF image)
Frame 54: 1096 bytes on wire (8768 bits), 1096 bytes captured (8768 bits)
Ethernet II, Src: LinksysG_da:af:73 (00:06:25:da:af:73), Dst: Dell_4f:36:23 (00:08:74:4f:36:23)
Internet Protocol Version 4, Src: 134.241.6.82, Dst: 192.168.1.102
   0100 .... = Version: 4
    .... 0101 = Header Length: 20 bytes (5)
   Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
   Total Length: 1082
   Identification: 0x46bc (18108)
   Flags: 0x40, Don't fragment
   ...0 0000 0000 0000 = Fragment Offset: 0
   Time to Live: 51
```

```
Protocol: TCP (6)
   Header Checksum: 0xadb0 [validation disabled]
   [Header checksum status: Unverified]
   Source Address: 134.241.6.82
   Destination Address: 192.168.1.102
Transmission Control Protocol, Src Port: 80, Dst Port: 4309, Seq: 14786, Ack: 556, Len: 1042
   Source Port: 80
   Destination Port: 4309
   [Stream index: 2]
   [Conversation completeness: Complete, WITH DATA (31)]
   [TCP Segment Len: 1042]
   Sequence Number: 14786
                              (relative sequence number)
   Sequence Number (raw): 549592806
   [Next Sequence Number: 15829
                                    (relative sequence number)]
   Acknowledgment Number: 556
                                  (relative ack number)
   Acknowledgment number (raw): 4246666768
   0101 .... = Header Length: 20 bytes (5)
   Flags: 0x019 (FIN, PSH, ACK)
   Window: 49152
   [Calculated window size: 49152]
   [Window size scaling factor: -2 (no window scaling used)]
   Checksum: 0x4b40 [unverified]
   [Checksum Status: Unverified]
   Urgent Pointer: 0
   [Timestamps]
   [SEQ/ACK analysis]
   TCP payload (1042 bytes)
   TCP segment data (1042 bytes)
[18 Reassembled TCP Segments (15827 bytes): #29(31), #30(37), #32(20), #33(46), #35(26), #36(23), #38(2), #39(1460), #41(1460),
#42(1460), #44(1460), #45(1460), #47(1460), #48(1460), #50(1460), #51(1460), #53(1460), #54(1042)]
Hypertext Transfer Protocol
   HTTP/1.0 200 Document follows\r\n
       [Expert Info (Chat/Sequence): HTTP/1.0 200 Document follows\r\n]
       Response Version: HTTP/1.0
       Status Code: 200
       [Status Code Description: OK]
       Response Phrase: Document follows
   Date: Tue, 23 Sep 2003 05:38:44 GMT\r\n
   Server: NCSA/1.5.2\r\n
   Last-modified: Tue, 23 Sep 2003 04:56:38 GMT\r\n
   Content-type: image/jpeg\r\n
   Content-length: 15642\r\n
   \r\n
   [HTTP response 1/1]
   [Time since request: 0.281074000 seconds]
   [Request in frame: 20]
   [Request URI: http://manic.cs.umass.edu/~kurose/cover.jpg]
```

File Data: 15642 bytes JPEG File Interchange Format