

## Report for Lab 13-1: Ethernet Protocol

<b>Name:</b> 김다빈	<b>Student ID:</b> 2015004375	<b>Date:</b> 17.05.07
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Part I	
1	Frame size: 73 bytes on wire (584 bits)
2	Payload size (data and padding): Total length - Header size = 59 bytes - 20 bytes = 39 bytes
3	Can you say that there is padding in the payload? No.
4	Number of bytes of padding in a 60-byte frame: 6 bytes

Part II	
1	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> a. Destination link-layer address: 88:36:6c:00:cd:a4 </div> <div style="width: 45%;"> b. Source link-layer address: a4:5e:60:f1:f0:49 </div> </div> <div style="margin-top: 5px;"> c. Upper layer protocol: UDP(17) </div>
2	Are answers to question 1 verified by the information in the detail pane lane? Yes (part 2.2)
3	Is destination link-layer address unicast or broadcast? Yes. It is “unicast”.
4	Does the source link-layer address define your network? No.  Explain : Source link layer address is the link-layer address of the sender, it is not related to network layer. So, source link-layer address just itself can't define my network.
5	Is there a relationship between the designation link-layer address and the destination IP address? Yes.  Explain : Through Arp, the destination link-layer address can be binded with the destination IP address. In other words, IP address can be found by link-layer address.

part 2. 2, 2.3

▼ Destination: EfmNetwo_00:cd:a4 (88:36:6c:00:cd:a4)
Address: EfmNetwo_00:cd:a4 (88:36:6c:00:cd:a4)
.... ..0. .... = LG bit: Globally unique address (factory default)
.... ..0. .... = IG bit: Individual address (unicast)
▼ Source: Apple_f1:f0:49 (a4:5e:60:f1:f0:49)
Address: Apple_f1:f0:49 (a4:5e:60:f1:f0:49)
.... ..0. .... = LG bit: Globally unique address (factory default)
.... ..0. .... = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)
▼ Internet Protocol Version 4, Src: 192.168.0.2, Dst: 168.126.63.1
0100 .... = Version: 4
.... 0101 = Header Length: 20 bytes (5)
► Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
Total Length: 59
Identification: 0x1904 (6404)
▼ Flags: 0x00
0... .... = Reserved bit: Not set
.0.. .... = Don't fragment: Not set
..0. .... = More fragments: Not set
Fragment offset: 0
Time to live: 64
Protocol: UDP (17)