

# Assignment-2 CS425A

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## 1 Ethernet

```
Ethernet II, Src: AmbitMic a9:3d:68 (00:d0:59:a9:3d:68), Dst: LinksysG da:af:73 (00:06:25:da:af:73)
Destination: LinksysG da:af:73 (00:06:25:da:af:73) Q2
Address: LinksysG da:af:73 (00:06:25:da:af:73)
... .. = LG bit: Globally unique address (factory default)
... .. = IG bit: Individual address (unicast)
Source: AmbitMic a9:3d:68 (00:d0:59:a9:3d:68) Q1
Address: AmbitMic a9:3d:68 (00:d0:59:a9:3d:68)
... .. = LG bit: Globally unique address (factory default)
... .. = IG bit: Individual address (unicast)
Type: IPv4 (0x0800) Q3
```

### 1.1 Problem 1

The ethernet address of my computer is 00:d0:59:a9:3d:68.

### 1.2 Problem 2

The destination address in the ethernet frame is 00:06:25:da:af:73. This is not the ethernet address of gia.cs.umass.edu. LinksysG router has this ethernet address.

### 1.3 Problem 3

The hexadecimal value for the two-byte Frame type field is 0x0800. It corresponds to Network Layer Protocol. Here the protocol used is IP.

### 1.4 Problem 4

```
[response in frame 49]
0000 00 06 25 da af 73 00 d0 59 a9 3d 68 08 00 45 00 ...s..Y.=h..E.
0010 02 a0 00 fa 40 00 80 06 bf c8 c0 a8 01 69 80 77 ....@.....i.w
0020 f5 0c 04 22 00 50 65 14 99 a7 ac a5 3f b4 50 18 ...".Pe.....?P.
0030 fa f0 7e 4f 00 00 45 54 20 2f 65 74 68 65 72 ..~0..GET /ether
0040 65 61 6c 2d 6c 61 62 73 2f 48 54 54 50 2d 65 74 eal-labs/HTTP-et
0050 68 65 72 65 61 6c 2d 6c 61 62 2d 66 69 6c 65 33 hereal-lab-file3
0060 2e 68 74 6d 6c 20 48 54 54 50 2f 31 2e 31 0d 0a .html HTTP/1.1..
0070 48 6f 73 74 3a 20 67 61 69 61 2e 63 73 2e 75 6d Host: gaia.cs.um
```

'G' occurs **after** 54 bytes from the start of the ethernet frame.

```

Ethernet II, Src: LinksysG_da:af:73 (00:06:25:da:af:73), Dst: AmbitMic_a9:3d:68 (00:d0:59:a9:3d:68)
Destination: AmbitMic_a9:3d:68 (00:d0:59:a9:3d:68)
Address: AmbitMic_a9:3d:68 (00:d0:59:a9:3d:68)
.....0..... = LG bit: Globally unique address (factory default)
.....0..... = IG bit: Individual address (unicast)
Source: LinksysG_da:af:73 (00:06:25:da:af:73)
Address: LinksysG_da:af:73 (00:06:25:da:af:73)
.....0..... = LG bit: Globally unique address (factory default)
.....0..... = IG bit: Individual address (unicast)
Type: IPv4 (0x0800)
Internet Protocol Version 4, Src: 128.119.245.12, Dst: 192.168.1.105

```

## 1.5 Problem 5

The value of the ethernet source address is 00:06:25:da:af:73. This is the ethernet address of the LinksysG router which is used to route the datagram off the subnet.

## 1.6 Problem 6

The destination ethernet address is 00:d0:59:a9:3d:68. This is the ethernet address of my computer.

## 1.7 Problem 7

The hexadecimal value for the two-byte Frame type field is 0x0800. It corresponds to Network Layer Protocol. Here the protocol used is IP.

## 1.8 Problem 8

```

Data (1500 bytes)
0000  45 60 05 dc 8f 2f 40 00 37 06 76 f7 80 77 f5 0c  E`.../ @.7.v..w..
0010  c0 a8 01 69 00 50 04 22 ac a5 3f b4 65 14 9c 1f  ...i.P"...?.e...
0020  50 10 1b 28 5e d0 00 00 48 54 54 50 2f 31 2e 31  P..(^...HTTP/1.1
0030  20 32 30 30 20 4b 4b 0d 0a 44 61 74 65 3a 20 53  200 OK..Date: S
0040  61 74 2c 20 32 38 20 41 75 67 20 32 30 30 34 20  at, 28 Aug 2004

```

'O' occurs **after** 53 bytes from the start of the ethernet frame.