

# 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)
...0... = LG bit: Globally unique address (factory default)
...0... = 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)
...0... = LG bit: Globally unique address (factory default)
...0... = 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) Q6
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) Q5
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) Q7
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

TCP segment data (1460 bytes)																	
0000	00	d0	59	a9	3d	68	00	06	25	da	af	73	08	00	45	60	..Y.=h..%.s..E`
0010	05	dc	8f	2f	40	00	37	06	76	f7	80	77	f5	0c	c0	a8	.../@.7.v..w....
0020	01	69	00	50	04	22	ac	a5	3f	b4	65	14	9c	1f	50	10	.i.P."...?.e...P.
0030	1b	28	5e	d0	00	00	48	54	54	50	2f	31	2e	31	20	32	.(^...HTTP/1.1 2
0040	30	30	20	4f	4b	0d	0a	44	61	74	65	3a	20	53	61	74	00 O K..Date: Sat
0050	2c	20	32	38	20	41	75	67	20	32	30	30	34	20	31	37	, 28 Aug 2004 17

'O' occurs **after** 66 bytes from the start of the ethernet frame.