1. What is the IP address of your computer?

The IP address of my computer is 192.168.1.102

No.	Time S	Source	Destination	Protocol	Length Info
	1 0.000000 1	Telebit_73:8d:ce	Broadcast	ARP	60 Who has 192.168.1.117? Tell 192.168.1.104
	2 4.866867 1	192.168.1.100	192.168.1.1	SSDP	174 M-SEARCH * HTTP/1.1
	3 4.868147 1	192.168.1.100	192.168.1.1	SSDP	175 M-SEARCH * HTTP/1.1
	4 5.363536 1	192.168.1.100	192.168.1.1	SSDP	174 M-SEARCH * HTTP/1.1
	5 5.364799 1	192.168.1.100	192.168.1.1	SSDP	175 M-SEARCH * HTTP/1.1
	6 5.864428 1	192.168.1.100	192.168.1.1	SSDP	174 M-SEARCH * HTTP/1.1
	7 5.865461 1	192.168.1.100	192.168.1.1	SSDP	175 M-SEARCH * HTTP/1.1
	8 6.163045 1	192.168.1.102	128.59.23.100	ICMP	98 Echo (ping) request id=0x0300, seq=20483/848, ttl=1 (no response found!
	9 6.176826 1	10.216.228.1	192.168.1.102	ICMP	70 Time-to-live exceeded (Time to live exceeded in transit)
	10 6.188629 1	192.168.1.102	128.59.23.100	ICMP	98 Echo (ping) request id=0x0300, seq=20739/849, ttl=2 (no response found!
	11 6.202957 2	24.218.0.153	192.168.1.102	ICMP	70 Time-to-live exceeded (Time to live exceeded in transit)
	12 6.208597 1	192.168.1.102	128.59.23.100	ICMP	98 Echo (ping) request id=0x0300, seq=20995/850, ttl=3 (no response found!
	13 6.234505 2	24.128.190.197	192.168.1.102	ICMP	70 Time-to-live exceeded (Time to live exceeded in transit)
	14 6.238695 1	192.168.1.102	128.59.23.100	ICMP	98 Echo (ping) request id=0x0300, seq=21251/851, ttl=4 (no response found!
	15 6.257672 2	24.128.0.101	192.168.1.102	ICMP	70 Time-to-live exceeded (Time to live exceeded in transit)
	16 6.258750 1	192.168.1.102	128.59.23.100	ICMP	98 Echo (ping) request id=0x0300, seq=21507/852, ttl=5 (no response found!
	17 6.286017 1	12.125.47.49	192.168.1.102	ICMP	70 Time-to-live exceeded (Time to live exceeded in transit)
	18 6.288750 1	192.168.1.102	128.59.23.100	ICMP	98 Echo (ping) request id=0x0300, seq=21763/853, ttl=6 (no response found!
	19 6.307657 1	12.123.40.218	192.168.1.102	ICMP	126 Time-to-live exceeded (Time to live exceeded in transit)
	20 6.308748 1	192.168.1.102	128.59.23.100	ICMP	98 Echo (ping) request id=0x0300, seq=22019/854, ttl=7 (no response found!
	21 6.334320 1	12.122.10.22	192.168.1.102	ICMP	126 Time-to-live exceeded (Time to live exceeded in transit)
	22 6.338804 1	192.168.1.102	128.59.23.100	ICMP	98 Echo (ping) request id=0x0300, seq=22275/855, ttl=8 (no response found!
	23 6.358888 1	192.168.1.102	128.59.23.100	ICMP	98 Echo (ping) request id=0x0300, seq=22531/856, ttl=9 (no response found!
	24 6.365501 1	12.122.12.54	192.168.1.102	ICMP	70 Time-to-live exceeded (Time to live exceeded in transit)
<					
> Frame 8	: 98 bytes on wire	(784 bits), 98 bytes captured (784 bits)		
		8a:70:1a (00:20:e0:8a:70:1a), Dst: Lin		6:25:da:af:	73)
✓ Internet	t Protocol Version	4, Src: 192.168.1.102, Dst: 128.59.23.1	90		
0100	= Version: 4				
	0101 = Header Lengt	th: 20 bytes (5)			
> Diffe	erentiated Services	Field: 0x00 (DSCP: CS0, ECN: Not-ECT)			
Total	l Length: 84				
Iden	tification: 0x32d0 ((13008)			
> Flag	s: 0x00				
Fragi	ment offset: 0				
> Time	to live: 1				
Prote	ocol: ICMP (1)				
Head	er checksum: 0x2d2c	[validation disabled]			
[Head	der checksum status:	: Unverified]			
Sour	ce: 192.168.1.102	-			
Dest:	ination: 128.59.23.1	100			
Sou	rce GeoIP: Unknown]				
	tination GeoIP: Unkr	nown]			
> Interne	t Control Message Pr	rotocol			

2. Within the IP packet header, what is the value in the upper layer protocol field?

ICMP is in the upper layer protocol field

3. How many bytes are in the IP header? How many bytes are in the payload of the IP datagram? Explain how you determined the number of payload bytes.

Based off the datagram, the header is 20 bytes and the total length is 84 bytes. Thus the payload is 64 bytes since 84-20 = 64.

4. Has this IP datagram been fragmented? Explain how you determined whether or not the datagram has been fragmented.

No the datagram has not been fragmented since the More fragments flag has not been set.

5. Which fields in the IP datagram always change from one datagram to the next within this series of ICMP messages sent by your computer?

Identification, Time to live, and header checksum changes between thus series of datagrams

1 0.000000 Telebit_73:8d:ce	Broadcast	ARP	60 Who has 192.168.1.117? Tell 192.168.1.104
2 4.866867 192.168.1.100	192.168.1.1	SSDP	174 M-SEARCH * HTTP/1.1
3 4.868147 192.168.1.100	192.168.1.1	SSDP	175 M-SEARCH * HTTP/1.1
4 5.363536 192.168.1.100	192.168.1.1	SSDP	174 M-SEARCH * HTTP/1.1
5 5.364799 192.168.1.100	192.168.1.1	SSDP	175 M-SEARCH * HTTP/1.1
6 5.864428 192.168.1.100	192.168.1.1	SSDP	174 M-SEARCH * HTTP/1.1
7 5.865461 192.168.1.100	192.168.1.1	SSDP	175 M-SEARCH * HTTP/1.1
8 6.163045 192.168.1.102	128.59.23.100	ICMP	98 Echo (ping) request id=0x0300, seq=20483/848, ttl=1 (no response foun
9 6.176826 10.216.228.1	192.168.1.102	ICMP	70 Time-to-live exceeded (Time to live exceeded in transit)
10 6.188629 192.168.1.102	128.59.23.100	ICMP	98 Echo (ping) request id=0x0300, seq=20739/849, ttl=2 (no response foun
11 6.202957 24.218.0.153	192.168.1.102	ICMP	70 Time-to-live exceeded (Time to live exceeded in transit)
12 6.208597 192.168.1.102	128.59.23.100	ICMP	98 Echo (ping) request id=0x0300, seq=20995/850, ttl=3 (no response foun
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15 6.257672 24.128.0.101	192.168.1.102	ICMP	70 Time-to-live exceeded (Time to live exceeded in transit)
16 6.258750 192.168.1.102	128.59.23.100	ICMP	98 Echo (ping) request id=0x0300, seq=21507/852, ttl=5 (no response foun
17 6.286017 12.125.47.49	192.168.1.102	ICMP	70 Time-to-live exceeded (Time to live exceeded in transit)
18 6.288750 192.168.1.102	128.59.23.100	ICMP	98 Echo (ping) request id=0x0300, seq=21763/853, ttl=6 (no response foun
19 6.307657 12.123.40.218	192.168.1.102	ICMP	126 Time-to-live exceeded (Time to live exceeded in transit)
20 6.308748 192.168.1.102	128.59.23.100	ICMP	98 Echo (ping) request id=0x0300, seq=22019/854, ttl=7 (no response four
21 6.334320 12.122.10.22	192.168.1.102	ICMP	126 Time-to-live exceeded (Time to live exceeded in transit)
22 6.338804 192.168.1.102	128.59.23.100	ICMP	98 Echo (ping) request id=0x0300, seq=22275/855, ttl=8 (no response foun
23 6.358888 192.168.1.102	128.59.23.100	ICMP	98 Echo (ping) request id=0x0300, seq=22531/856, ttl=9 (no response foun
24 6.365501 12.122.12.54	192.168.1.102	ICMP	70 Time-to-live exceeded (Time to live exceeded in transit)
	(500 Lin)		
		200.50.70.1-\	
Ethernet II, Src: LinksysG_da:af:73 (00:06:25:da:af:73),	Dst: PremaxPe_8a:70:1a (00:	20:e0:8a:70:1a)	
Ethernet II, Src: LinksysG_da:af:73 (00:06:25:da:af:73), Internet Protocol Version 4, Src: 10.216.228.1, Dst: 192	Dst: PremaxPe_8a:70:1a (00:	20:e0:8a:70:1a)	
thernet II, Src: LinksysG_da:af:73 (00:06:25:da:af:73), Internet Protocol Version 4, Src: 10.216.228.1, Dst: 192 0100 = Version: 4	Dst: PremaxPe_8a:70:1a (00:	20:e0:8a:70:1a)	
thernet II, Src: LinksysG_da:af:73 (00:06:25:da:af:73), Internet Protocol Version 4, Src: 10.216.228.1, Dst: 192 0100 = Version: 4 0101 = Header Length: 20 bytes (5)	Dst: PremaxPe_8a:70:1a (00: .168.1.102	20:e0:8a:70:1a)	
<pre>thernet II, Src: LinksysG da:af:73 (00:06:25:da:af:73), Internet Protocol Version 4, Src: 10.216.228.1, Dst: 192 0100 = Version: 4 0101 = Header Length: 20 bytes (5) Differentiated Services Field: 0xc0 (DSCP: CS6, ECN: 10.20)</pre>	Dst: PremaxPe_8a:70:1a (00: .168.1.102	20:e0:8a:70:1a)	
thernet II, Src: LinksysG_da:af:73 (00:06:25:da:af:73), Internet Protocol Version A, Src: 10:216.228.1, Dst: 192 0100 = Version: 4 0101 = Header Length: 20 bytes (5) Differentiated Services Field: 0xc0 (DSCP: CS6, ECN: 1 Total Length: 56	Dst: PremaxPe_8a:70:1a (00: .168.1.102	20:e0:8a:70:1a)	
thernet II, Src: LinksysG da:af:73 (00:06:25:da:af:73), internet Protocol Version 4, Src: 10.216.228.1, Dst: 192 0100 Version: 4 0101 = 100.0000 0101 = Header Length: 20 bytes (5) Differentiated Services Field: 0xc0 (DSCP: CS6, ECN: 1 Total Length: 56 Identification: 0x9d7c (40316)	Dst: PremaxPe_8a:70:1a (00: .168.1.102	20:e0:8a:70:1a)	
<pre>ithernet II, Src: LinksysG da:af:73 (00:06:25:da:af:73), internet Protocol Version 4, Src: 10.216.228.1, Dst: 192 0100 = Version: 4</pre>	Dst: PremaxPe_8a:70:1a (00: .168.1.102	20:e0:8a:70:1a)	
thernet II, Src: LinksysG da:af:73 (00:06:25:da:af:73), internet Protocol Version 4, Src: 10.216.228.1, Dst: 192 0100 = Version: 4 0101 = Header Length: 20 bytes (5) Differentiated Services Field: 0xc0 (DSCP: CS6, ECN: Total Length: 56 Identification: 0x9d7c (40316) Flags: 0x00 Fragment offset: 0	Dst: PremaxPe_8a:70:1a (00: .168.1.102	20:e0:8a:70:1a)	
thernet II, Src: LinksysG da:af:73 (00:06:25:da:af:73), nternet Protocol Version 4, Src: 10.216.228.1, Dst: 192 0100 = Version: 4 0101 = Header Length: 20 bytes (5) Differentiated Services Field: 0xc0 (DSCP: CS6, ECN: 1 Total Length: 56 Identification: 0x9d7c (40316) Flags: 0x90 Fragment offset: 0 Time to live: 255	Dst: PremaxPe_8a:70:1a (00: .168.1.102	20:e0:8a:70:1a)	
thernet II, Src: LinksysG da:af:73 (00:06:25:da:af:73), internet Protocol Version 4, Src: 10.216.228.1, Dst: 192 01:00 = Version: 4 0101 = Header Length: 20 bytes (5) Differentiated Services Field: 0xc0 (DSCP: CS6, ECN: 170tal Length: 50 Identification: 0x9d7c (40316) Flags: 0x00 Fragment offset: 0 Time to live: 255 Protocol: ICMP (1)	Dst: PremaxPe_8a:70:1a (00: .168.1.102	20:e0:8a:70:1a)	
thernet II, Src: LinksysG da:af:73 (00:06:25:da:af:73), internet Protocol Version 4, Src: 10.216.228.1, Dst: 192 0100 = Version: 4 0101 = Header Length: 20 bytes (5) Differentiated Services Field: 0xc0 (DSCP: CS6, ECN: 1 Total Length: 56 Identification: 0x9d7c (40316) Flags: 0x00 Fragment offset: 0 Time to live: 255 Protocol: ICNP (1) Header checksum: 0x6ca0 [validation disabled]	Dst: PremaxPe_8a:70:1a (00: .168.1.102	20:e0:8a:70:1a)	
thernet II, Src: LinksysG da:af:73 (00:06:25:da:af:73), internet Protocol Version: 4, Src: 10.216.228.1, Dst: 192 01:00 = Version: 4 0101 = Header Length: 20 bytes (5) Differentiated Services Field: 0xc0 (DSCP: CS6, ECN: 1 Total Length: 5 Total Length: 50 Flags: 0x00 Fragment offset: 0 Time to live: 255 Protocol: ICMP (1) Header checksum: 0x6ca0 [validation disabled] [Header checksum: 0x6ca0 [validation]	Dst: PremaxPe_8a:70:1a (00: .168.1.102	20:e0:8a:70:1a)	
thernet II, Src: LinksysG da:af:73 (00:06:25:da:af:73), nternet Protocol Version 4, Src: 10.216.228.1, Dst: 192 0100 = Version: 4 0101 = Header Length: 20 bytes (5) Differentiated Services Field: 0xc0 (DSCP: CS6, ECN: 1 Total Length: 56 Identification: 0x:9d7c (40316) Flags: 0x00 Fragment offset: 0 Time to live: 255 Protocol: ICNP (1) Header checksum: 0x6ca0 [validation disabled] [Header checksum: status: Unverified] Source: 10.216.228.1	Dst: PremaxPe_8a:70:1a (00: .168.1.102	20:e0:8a:70:1a)	
thernet II, Src: LinksysG da:af:73 (00:06:25:da:af:73), Internet Protocol Version: 4, Src: 10.216.228.1, Dst: 192 01:00 = Version: 4 = 101. = Header Length: 20 bytes (5) Differentiated Services Field: 0xc0 (DSCP: CS6, ECN: 17 total Length: 56 Identification: 0x9d7c (40316) Flags: 0x00 Fragment offset: 0 Time to live: 255 Protocol: ICMP (1) Header checksum: 0x5ca0 [validation disabled] [Header checksum status: Unverified] Source: 10.216.228.1 Destination: 192.168.1.102	Dst: PremaxPe_8a:70:1a (00: .168.1.102	20:e0:8a:70:1a)	
0101 = Header Length: 20 bytes (5) Olfferentiated Services Field: 0xc0 (DSCP: CS6, ECN: Total Length: 56 Identification: 0x9d7c (40316) Flags: 0x90 Fragment Offset: 0 Time to live: 255 Protocol: ICPP (1) Header checksum: 0x5ca0 [validation disabled] [Header checksum status: Unverified] Source: 10 215c.228.1	Dst: PremaxPe_8a:70:1a (00: .168.1.102	20:e0:8a:70:1a)	

6. Which fields stay constant? Which of the fields must stay constant? Which fields must change? Why?

The Version, Header Length, Total Length, Flags, Fragment Offset, Protocol, Source, and Destination stay the same (everything but Identification, Time to Live and Header checksum).

The protocol, source, destination and flags never change since it is the same data that being sent between devices.

The identification and time to live must change since those are unique information that is important to identify between packets and is independent of the data.

The header checksum changes because the header changes, therefore the checksum is different.

- 7. Describe the pattern you see in the values in the Identification field of the IP Datagram

 The pattern I see in the values in the Identification field is that it increments by 1 everytime.
- 8. What is the value in the Identification field and the TTL field?

The identification field is 13008 and the TLL is 1.

			serger are
1 0.000000 Telebit_73:8d:ce	Broadcast	ARP	60 Who has 192.168.1.117? Tell 192.168.1.104
2 4.866867 192.168.1.100	192.168.1.1	SSDP	174 M-SEARCH * HTTP/1.1
3 4.868147 192.168.1.100	192.168.1.1	SSDP	175 M-SEARCH * HTTP/1.1
4 5.363536 192.168.1.100	192.168.1.1	SSDP	174 M-SEARCH * HTTP/1.1
5 5.364799 192.168.1.100	192.168.1.1	SSDP	175 M-SEARCH * HTTP/1.1
6 5.864428 192.168.1.100	192.168.1.1	SSDP	174 M-SEARCH * HTTP/1.1
7 5.865461 192.168.1.100	192.168.1.1	SSDP	175 M-SEARCH * HTTP/1.1
8 6.163045 192.168.1.102	128.59.23.100	ICMP	98 Echo (ping) request id=0x0300, seq=20483/848, ttl=1 (no response found!
9 6.176826 10.216.228.1	192.168.1.102	ICMP	70 Time-to-live exceeded (Time to live exceeded in transit)
10 6.188629 192.168.1.102	128.59.23.100	ICMP	98 Echo (ping) request id=0x0300, seq=20739/849, ttl=2 (no response found!
11 6.202957 24.218.0.153	192.168.1.102	ICMP	70 Time-to-live exceeded (Time to live exceeded in transit)
12 6.208597 192.168.1.102	128.59.23.100	ICMP	98 Echo (ping) request id=0x0300, seq=20995/850, ttl=3 (no response found!
13 6.234505 24.128.190.197	192.168.1.102	ICMP	70 Time-to-live exceeded (Time to live exceeded in transit)
14 6.238695 192.168.1.102	128.59.23.100	ICMP	98 Echo (ping) request id=0x0300, seq=21251/851, ttl=4 (no response found!
15 6.257672 24.128.0.101	192.168.1.102	ICMP	70 Time-to-live exceeded (Time to live exceeded in transit)
16 6.258750 192.168.1.102	128.59.23.100	ICMP	98 Echo (ping) request id=0x0300, seq=21507/852, ttl=5 (no response found!
17 6.286017 12.125.47.49	192.168.1.102	ICMP	70 Time-to-live exceeded (Time to live exceeded in transit)
18 6.288750 192.168.1.102	128.59.23.100	ICMP	98 Echo (ping) request id=0x0300, seq=21763/853, ttl=6 (no response found!
19 6.307657 12.123.40.218	192.168.1.102	ICMP	126 Time-to-live exceeded (Time to live exceeded in transit)
20 6.308748 192.168.1.102	128.59.23.100	ICMP	98 Echo (ping) request id=0x0300, seq=22019/854, ttl=7 (no response found!
21 6.334320 12.122.10.22	192.168.1.102	ICMP	126 Time-to-live exceeded (Time to live exceeded in transit)
22 6.338804 192.168.1.102	128.59.23.100	ICMP	98 Echo (ping) request id=0x0300, seq=22275/855, ttl=8 (no response found!
23 6.358888 192.168.1.102	128.59.23.100	ICMP	98 Echo (ping) request id=0x0300, seq=22531/856, ttl=9 (no response found!
24 6.365501 12.122.12.54	192.168.1.102	ICMP	70 Time-to-live exceeded (Time to live exceeded in transit)
<			
> Frame 8: 98 bytes on wire (784 bits), 98 bytes	cantured (784 hits)		
> Ethernet II. Src: PremaxPe 8a:70:1a (00:20:e0:8		5-25-da-af-	73)
V Internet Protocol Version 4, Src: 192.168.1.102			
0100 = Version: 4	, 0501 1201551251200		
0101 = Header Length: 20 bytes (5)			
> Differentiated Services Field: 0x00 (DSCP: C	SO ECN: Not-ECT)		
Total Length: 84	20, 2011 100 2017		
Identification: 0x32d0 (13008)			
> Flags: 0x00			
Fragment offset: 0			
> Time to live: 1			
Protocol: ICMP (1)			

9. Do these values remain unchanged for all of the ICMP TTL-exceeded replies sent to your computer by the nearest (first hop) router? Why?

No the values do not remain unchanged, the TTL decrements starting at 255 with each reply. The ID is 40316 in the first reply and the following replies have a value of 0.

pry. The 1D is 40310 in the in	st repry and me	TOHOWI	ing replies have a value of 0.
8 6.163045 192.168.1.102	128.59.23.100	ICMP	98 Echo (ping) request id=0x0300, seq=20483/848, ttl=1 (no response found
9 6.176826 10.216.228.1	192.168.1.102	ICMP	70 Time-to-live exceeded (Time to live exceeded in transit)
10 6.188629 192.168.1.102	128.59.23.100	ICMP	98 Echo (ping) request id=0x0300, seq=20739/849, ttl=2 (no response found
11 6.202957 24.218.0.153	192.168.1.102	ICMP	70 Time-to-live exceeded (Time to live exceeded in transit)
12 6.208597 192.168.1.102	128.59.23.100	ICMP	98 Echo (ping) request id=0x0300, seq=20995/850, ttl=3 (no response found
13 6.234505 24.128.190.197	192.168.1.102	ICMP	70 Time-to-live exceeded (Time to live exceeded in transit)
14 6.238695 192.168.1.102	128.59.23.100	ICMP	98 Echo (ping) request id=0x0300, seq=21251/851, ttl=4 (no response found
15 6.257672 24.128.0.101	192.168.1.102	ICMP	70 Time-to-live exceeded (Time to live exceeded in transit)
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17 6.286017 12.125.47.49	192.168.1.102	ICMP	70 Time-to-live exceeded (Time to live exceeded in transit)
18 6.288750 192.168.1.102	128.59.23.100	ICMP	98 Echo (ping) request id=0x0300, seq=21763/853, ttl=6 (no response found
19 6.307657 12.123.40.218	192.168.1.102	ICMP	126 Time-to-live exceeded (Time to live exceeded in transit)
20 6.308748 192.168.1.102	128.59.23.100	ICMP	98 Echo (ping) request id=0x0300, seq=22019/854, ttl=7 (no response found
21 6.334320 12.122.10.22	192.168.1.102	ICMP	126 Time-to-live exceeded (Time to live exceeded in transit)
22 6.338804 192.168.1.102	128.59.23.100	ICMP	98 Echo (ping) request id=0x0300, seq=22275/855, ttl=8 (no response found
23 6.358888 192.168.1.102	128.59.23.100	ICMP	98 Echo (ping) request id=0x0300, seq=22531/856, ttl=9 (no response found
24 6.365501 12.122.12.54	192.168.1.102	ICMP	70 Time-to-live exceeded (Time to live exceeded in transit)
25 6.370907 192.168.1.100	192.168.1.1	SSDP	174 M-SEARCH * HTTP/1.1
26 6.372083 192.168.1.100	192.168.1.1	SSDP	175 M-SEARCH * HTTP/1.1
27 6.382957 192.205.32.106	192.168.1.102	ICMP	70 Time-to-live exceeded (Time to live exceeded in transit)
Frame 9: 70 bytes on wire (560 bits), 70 bytes captured	1 (560 hits)		
Ethernet II, Src: LinksysG da:af:73 (00:06:25:da:af:73)		20 · e0 · 8a · 70 · 1a	
Internet Protocol Version 4, Src: 10.216.228.1, Dst: 19		20.00.00.70.10	,
0100 = Version: 4	2.100.1.102		
0101 = Header Length: 20 bytes (5)			
> Differentiated Services Field: 0xc0 (DSCP: CS6, ECN:	Not-FCT)		
Total Length: 56	not cery		
Identification: 0x9d7c (40316)			
> Flags: 0x00			
Fragment offset: 0			
Tragment offset. 0			

8 6.163045 192.168.1.102	128.59.23.100	ICMP	98 Echo (ping) request id=0x0300, seq=20483/848, ttl=1 (no response found!)
9 6.176826 10.216.228.1	192.168.1.102	ICMP	70 Time-to-live exceeded (Time to live exceeded in transit)
10 6.188629 192.168.1.102	128.59.23.100	ICMP	98 Echo (ping) request id=0x0300, seq=20739/849, ttl=2 (no response found!)
11 6.202957 24.218.0.153	192.168.1.102	ICMP	70 Time-to-live exceeded (Time to live exceeded in transit)
12 6.208597 192.168.1.102	128.59.23.100	ICMP	98 Echo (ping) request id=0x0300, seq=20995/850, ttl=3 (no response found!)
13 6.234505 24.128.190.197	192.168.1.102	ICMP	70 Time-to-live exceeded (Time to live exceeded in transit)
14 6.238695 192.168.1.102	128.59.23.100	ICMP	98 Echo (ping) request id=0x0300, seq=21251/851, ttl=4 (no response found!)
15 6.257672 24.128.0.101	192.168.1.102	ICMP	70 Time-to-live exceeded (Time to live exceeded in transit)
16 6.258750 192.168.1.102	128.59.23.100	ICMP	98 Echo (ping) request id=0x0300, seq=21507/852, ttl=5 (no response found!)
17 6.286017 12.125.47.49	192.168.1.102	ICMP	70 Time-to-live exceeded (Time to live exceeded in transit)
18 6.288750 192.168.1.102	128.59.23.100	ICMP	98 Echo (ping) request id=0x0300, seq=21763/853, ttl=6 (no response found!)
19 6.307657 12.123.40.218	192.168.1.102	ICMP	126 Time-to-live exceeded (Time to live exceeded in transit)
20 6.308748 192.168.1.102	128.59.23.100	ICMP	98 Echo (ping) request id=0x0300, seq=22019/854, ttl=7 (no response found!)
21 6.334320 12.122.10.22	192.168.1.102	ICMP	126 Time-to-live exceeded (Time to live exceeded in transit)
22 6.338804 192.168.1.102	128.59.23.100	ICMP	98 Echo (ping) request id=0x0300, seq=22275/855, ttl=8 (no response found!)
23 6.358888 192.168.1.102	128.59.23.100	ICMP	98 Echo (ping) request id=0x0300, seq=22531/856, ttl=9 (no response found!)
24 6.365501 12.122.12.54	192.168.1.102	ICMP	70 Time-to-live exceeded (Time to live exceeded in transit)
25 6.370907 192.168.1.100	192.168.1.1	SSDP	174 M-SEARCH * HTTP/1.1
26 6.372083 192.168.1.100	192.168.1.1	SSDP	175 M-SEARCH * HTTP/1.1
27 6.382957 192.205.32.106	192.168.1.102	ICMP	70 Time-to-live exceeded (Time to live exceeded in transit)
<			
> Frame 11: 70 bytes on wire (560 bits), 70 bytes captur	ed (560 bits)		
> Ethernet II, Src: LinksysG da:af:73 (00:06:25:da:af:73), Dst: PremaxPe 8a:70:1a (00:	20:e0:8a:70:1a)
V Internet Protocol Version 4, Src: 24.218.0.153, Dst: 1	92.168.1.102		
0100 = Version: 4			
0101 = Header Length: 20 bytes (5)			
> Differentiated Services Field: 0x00 (DSCP: CS0, ECN	: Not-ECT)		
Total Length: 56	•		
Identification: 0x0000 (0)			
> Flags: 0x00			

10. Find the first ICMP Echo Request message that was sent by your computer after you changed the Packet Size in pingplotter to be 2000. Has that message been fragmented across more than one IP datagram?

Yes it is fragmented because the More Fragments flag is set.

			0
94 28.462 10.216.228.1	192.168.1.102	ICMP	70 Time-to-live exceeded (Time to live exceeded in transit)
95 28.470 192.168.1.102	128.59.23.100	IPv4	1514 Fragmented IP protocol (proto-ICMP 1, off-0, ID-32fa) [Reassembled in #96]
96 28.471 192.168.1.102	128.59.23.100	ICMP	562 Echo (ping) request id=0x0300, seq=30723/888, ttl=2 (no response found!)
97 28.490 192.168.1.102	128.59.23.100	IPv4	1514 Fragmented IP protocol (proto=ICMP 1, off=0, ID=32fb) [Reassembled in #98]
98 28.491 192.168.1.102	128.59.23.100	ICMP	562 Echo (ping) request id=0x0300, seq=30979/889, ttl=3 (no response found!)
99 28.520 192.168.1.102	128.59.23.100	IPv4	1514 Fragmented IP protocol (proto=ICMP 1, off=0, ID=32fc) [Reassembled in #100]
100 28.521 192.168.1.102	128.59.23.100	ICMP	562 Echo (ping) request id=0x0300, seq=31235/890, ttl=4 (no response found!)
101 28.530 24.218.0.153	192.168.1.102	ICMP	70 Time-to-live exceeded (Time to live exceeded in transit)
102 28.540 192.168.1.102	128.59.23.100	IPv4	1514 Fragmented IP protocol (proto-ICMP 1, off-0, ID-32fd) [Reassembled in #103]
103 28.541 192.168.1.102	128.59.23.100	ICMP	562 Echo (ping) request id=0x0300, seq=31491/891, ttl=5 (no response found!)
104 28.570 192.168.1.102	128.59.23.100	IPv4	1514 Fragmented IP protocol (proto=ICMP 1, off=0, ID=32fe) [Reassembled in #105]
105 28.571 192.168.1.102	128.59.23.100	ICMP	562 Echo (ping) request id-0x0300, seq-31747/892, ttl-6 (no response found!)
106 28.590 192.168.1.102	128.59.23.100	IPv4	1514 Fragmented IP protocol (proto=ICMP 1, off=0, ID=32ff) [Reassembled in #107]
107 28.591 192.168.1.102	128.59.23.100	ICMP	562 Echo (ping) request id=0x0300, seq=32003/893, ttl=7 (no response found!)
108 28.597 24.128.190.197	192.168.1.102	ICMP	70 Time-to-live exceeded (Time to live exceeded in transit)
109 28.620 192.168.1.102	128.59.23.100	IPV4	1514 Fragmented IP protocol (proto=ICMP 1, off=0, ID=3300) [Reassembled in #110]
110 28.621 192.168.1.102	128.59.23.100	ICMP	562 Echo (ping) request id=0x0300, seq=32259/894, ttl=8 (no response found!)
111 28.640 192.168.1.102	128.59.23.100	IPv4	1514 Fragmented IP protocol (proto-ICMP 1, off-0, ID-3301) [Reassembled in #112]
112 28.641 192.168.1.102	128.59.23.100	ICMP	562 Echo (ping) request id-0x0300, seq-32515/895, ttl-9 (no response found!)
113 28.667 24.128.0.101	192.168.1.102	ICMP	70 Time-to-live exceeded (Time to live exceeded in transit)
114 28.670 192.168.1.102	128.59.23.100	IPV4	1514 Fragmented IP protocol (proto=ICMP 1, off=0, ID=3302) [Reassembled in #115]
<			
Frame 92: 1514 bytes on wire (12112 bits), 1514 bytes capture	d (12112 bits)		
Ethernet II, Src: PremaxPe 8a:70:1a (00:20:e0:8a:70:1a), Dst:	LinksysG da:af:73 (00:	06:25:da:af:7	3)
Internet Protocol Version 4, Src: 192.168.1.102, Dst: 128.59.	23.100		
0100 = Version: 4			
0101 = Header Length: 20 bytes (5)			
> Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-E	CT)		
Total Length: 1500			
Identification: 0x32f9 (13049)			
> Flags: 0x01 (More Fragments)			
Fragment offset: 0			
> Time to live: 1			
Protocol: ICMP (1)			
Header checksum: 0x077b [validation disabled]			
[Header checksum status: Unverified]			
Source: 192.168.1.102			
Destination: 128.59.23.100			
[Source GeoIP: Unknown]			
[Destination GeoIP: Unknown]			
Reassembled IPv4 in frame: 93			
Data (1489 butos)			

11. Screenshot the first fragment of the fragmented IP datagram (with sufficient details to answer these questions). What information in the IP header indicates that the datagram been fragmented? What information in the IP header indicates whether this is the first fragment versus a latter fragment? How long is this IP datagram?

The More Fragments flag being set indicates that the datagram is fragemented. From the information you know that it is the beginning of the fragment because Fragment offset is 0. The entire datagram is 2008 bytes. There are 2 fragments with the first being 1500 bytes (+20 byte header) and the second is 546 bytes (20 byte header). From the second fragment offset being 1480, 1480+580 (total size)-20(header) = 2008 bytes

94 28.462 10.216.228.1	192.168.1.102	ICMP	70 Time-to-live exceeded (Time to live exceeded in transit)
95 28.470 192.168.1.102	128.59.23.100	IPv4	1514 Fragmented IP protocol (proto=ICMP 1, off=0, ID=32fa) [Reassembled in #96]
96 28.471 192.168.1.102	128.59.23.100	ICMP	562 Echo (ping) request id=0x0300, seq=30723/888, ttl=2 (no response found!)
97 28.490 192.168.1.102	128.59.23.100	IPv4	1514 Fragmented IP protocol (proto=ICMP 1, off=0, ID=32fb) [Reassembled in #98]
98 28.491 192.168.1.102	128.59.23.100	ICMP	562 Echo (ping) request id=0x0300, seq=30979/889, ttl=3 (no response found!)
99 28.520 192.168.1.102	128.59.23.100	IPv4	1514 Fragmented IP protocol (proto=ICMP 1, off=0, ID=32fc) [Reassembled in #100]
100 28.521 192.168.1.102	128.59.23.100	ICMP	562 Echo (ping) request id=0x0300, seq=31235/890, ttl=4 (no response found!)
101 28.530 24.218.0.153	192.168.1.102	ICMP	70 Time-to-live exceeded (Time to live exceeded in transit)
102 28.540 192.168.1.102	128.59.23.100	IPv4	1514 Fragmented IP protocol (proto=ICMP 1, off=0, ID=32fd) [Reassembled in #103]
103 28.541 192.168.1.102	128.59.23.100	ICMP	562 Echo (ping) request id=0x0300, seq=31491/891, ttl=5 (no response found!)
104 28.570 192.168.1.102	128.59.23.100	IPv4	1514 Fragmented IP protocol (proto=ICMP 1, off=0, ID=32fe) [Reassembled in #105]
105 28.571 192.168.1.102	128.59.23.100	ICMP	562 Echo (ping) request id=0x0300, seq=31747/892, ttl=6 (no response found!)
106 28.590 192.168.1.102	128.59.23.100	IPv4	1514 Fragmented IP protocol (proto=ICMP 1, off=0, ID=32ff) [Reassembled in #107]
107 28.591 192.168.1.102	128.59.23.100	ICMP	562 Echo (ping) request id=0x0300, seq=32003/893, ttl=7 (no response found!)
108 28.597 24.128.190.197	192.168.1.102	ICMP	70 Time-to-live exceeded (Time to live exceeded in transit)
109 28.620 192.168.1.102	128.59.23.100	IPv4	1514 Fragmented IP protocol (proto=ICMP 1, off=0, ID=3300) [Reassembled in #110]
110 28.621 192.168.1.102	128.59.23.100	ICMP	562 Echo (ping) request id=0x0300, seq=32259/894, ttl=8 (no response found!)
111 28.640 192.168.1.102	128.59.23.100	IPv4	1514 Fragmented IP protocol (proto=ICMP 1, off=0, ID=3301) [Reassembled in #112]
112 28.641 192.168.1.102	128.59.23.100	ICMP	562 Echo (ping) request id=0x0300, seq=32515/895, ttl=9 (no response found!)
113 28.667 24.128.0.101	192.168.1.102	ICMP	70 Time-to-live exceeded (Time to live exceeded in transit)
114 28.670 192.168.1.102	128.59.23.100	IPv4	1514 Fragmented IP protocol (proto=ICMP 1, off=0, ID=3302) [Reassembled in #115]
> Frame 92: 1514 bytes on wire (12112 bits), 1514 bytes > Ethernet II, Src: PremaxPe_8a:70:1a (00:20:e0:8a:70:1 ✓ Internet Protocol Version 4, Src: 192.168.1.102, Dst:	a), Dst: LinksysG_da:af:73 (00:	06:25:da:af:7	3)
0100 = Version: 4			
0101 = Header Length: 20 bytes (5)			
> Differentiated Services Field: 0x00 (DSCP: CS0, ECI	N: Not-ECT)		
Total Length: 1500			
Identification: 0x32f9 (13049)			
> Flags: 0x01 (More Fragments)			
Fragment offset: 0			
> Time to live: 1			
Protocol: ICMP (1)			
Header checksum: 0x077b [validation disabled]			
[Header checksum status: Unverified]			
Source: 192.168.1.102			
Destination: 128.59.23.100			
[Source GeoIP: Unknown]			
[Destination GeoIP: Unknown]			
[BESTINGTON GEOTY: ONKNOWN]			
Reassembled IPv4 in frame: 93			

12. Screenshot the second fragment of the fragmented IP datagram (with sufficient details to answer these questions). What information in the IP header indicates that this is not the first datagram fragment? Are the more fragments? How can you tell

You know that it is the second fragment of the IP datagram since there is a nonzero number in the fragment offset.

There are no more fragments since the More Fragments is not set.

	91 22.952	100 110 045 10			
		120.119.245.12	192.168.1.102	TCP	60 22 → 1170 [ACK] Seq=1 Ack=21 Win=35040 Len=0
		192.168.1.102	128.59.23.100	IPv4	1514 Fragmented IP protocol (proto=ICMP 1, off=0, ID=32f9) [Reassembled in #9
	93 28.442	192.168.1.102	128.59.23.100	ICMP	562 Echo (ping) request id=0x0300, seq=30467/887, ttl=1 (no response found!
(94 28.462	10.216.228.1	192.168.1.102	ICMP	70 Time-to-live exceeded (Time to live exceeded in transit)
	95 28.470	192.168.1.102	128.59.23.100	IPv4	1514 Fragmented IP protocol (proto=ICMP 1, off=0, ID=32fa) [Reassembled in #9
	96 28.471	192.168.1.102	128.59.23.100	ICMP	562 Echo (ping) request id=0x0300, seq=30723/888, ttl=2 (no response found!
		192.168.1.102	128.59.23.100	IPv4	1514 Fragmented IP protocol (proto=ICMP 1, off=0, ID=32fb) [Reassembled in #9
		192.168.1.102	128.59.23.100	ICMP	562 Echo (ping) request id=0x0300, seq=30979/889, ttl=3 (no response found!
		192.168.1.102	128.59.23.100	IPv4	1514 Fragmented IP protocol (proto=ICMP 1, off=0, ID=32fc) [Reassembled in #1
		192.168.1.102	128.59.23.100	ICMP	562 Echo (ping) request id=0x0300, seq=31235/890, ttl=4 (no response found!
		24.218.0.153	192.168.1.102	ICMP	70 Time-to-live exceeded (Time to live exceeded in transit)
		192.168.1.102	128.59.23.100	IPv4	1514 Fragmented IP protocol (proto=ICMP 1, off=0, ID=32fd) [Reassembled in #1
		192.168.1.102	128.59.23.100	ICMP	562 Echo (ping) request id=0x0300, seq=31491/891, ttl=5 (no response found!
		192.168.1.102	128.59.23.100	IPv4	1514 Fragmented IP protocol (proto=ICMP 1, off=0, ID=32fe) [Reassembled in #1
		192.168.1.102	128.59.23.100	ICMP	562 Echo (ping) request id=0x0300, seq=31747/892, ttl=6 (no response found!
		192.168.1.102	128.59.23.100	IPv4	1514 Fragmented IP protocol (proto=ICMP 1, off=0, ID=32ff) [Reassembled in #1
		192.168.1.102	128.59.23.100	ICMP	562 Echo (ping) request id=0x0300, seq=32003/893, ttl=7 (no response found!
		24.128.190.197	192.168.1.102	ICMP	70 Time-to-live exceeded (Time to live exceeded in transit)
	109 28 620		128 59 23 100	TPv4	
Ethernet II, Internet Pro 0100	52 bytes on wi , Src: PremaxP otocol Version . = Version: 4	re (4496 bits), 562 bytes capture re 8a:70:1a (00:20:e0:8a:70:1a), D 4, Src: 192.168.1.102, Dst: 128.	st: LinksysG_da:af:73 (00:	06:25:da:af:73	
Ethernet II, Internet Pro 0100 0101 > Different Total Len Identific > Flags: 0x	52 bytes on wi , Src: PremaxP otocol Version: 4 l = Header Len iated Service ngth: 548 action: 0x32f9	re (4496 bits), 562 bytes capture e_8a:70:1a (80:20:e0:8a:70:1a), D 4, Src: 192.168.1.102, Dst: 128. gth: 20 bytes (5) s Field: 0x00 (DSCP: CS0, ECN: No (13049)	st: Linksysg_da:af:73 (00: 59.23.100	06:25:da:af:73	
Ethernet II, Internet Pro 0100 0101 Different Total Len Identific Flags: 0x 0	52 bytes on wi , Src: PremaxP tocol Version: - Version: 4 L = Header Len tiated Service 18th: 548 action: 0x32f9 18th: 6x32f9 18th: 6	re (4496 bits), 562 bytes capture te 8a:70:1a (00:20:e0:8a:70:1a), D 4, Src: 192.168.1.102, Dst: 128. gth: 20 bytes (5) s Field: 0x00 (DSCP: CS0, ECN: No (13049) d bit: Not set	st: Linksysg_da:af:73 (00: 59.23.100	06:25:da:af:73	
Ethernet II, Internet Pro 0100 0101) Different Total Len Identific Flags: 0x 0 0	52 bytes on wi 52 bytes on wi 52 bytes on wi 53 bytes 54 bytes 54 bytes 54 bytes 54 bytes 68 bytes 69 bytes 60 bytes	re (4496 bits), 562 bytes capture re [8a:70:1a (00:20:e0:8a:70:1a), D 4, Src: 192.168.1.102, Dst: 128. gth: 20 bytes (5) s Field: 0x00 (DSCP: CS0, ECN: No (13049) d bit: Not set ragment: Not set	st: Linksysg_da:af:73 (00: 59.23.100	06:25:da:af:73	
Ethernet II, Internet Pro 0100 0101 Different Total Len Identific Flags: 0x 0 0	52 bytes on wi, , Src: PremayProtocol Version: - Version: 4 - Header Len ciated Service ngth: 548 - ation: 0x32f9 - 000 - Reserve - Don't f - More fr	re (4496 bits), 562 bytes capture te 8a:70:1a (00:20:e0:8a:70:1a), D 4, Src: 192.168.1.102, Dst: 128. gth: 20 bytes (5) s Field: 0x00 (DSCP: CS0, ECN: No (13049) d bit: Not set	st: Linksysg_da:af:73 (00: 59.23.100	06:25:da:af:73	
Ethernet II, Internet Pro 0100 0101 Different Total Len Identific Flags: 0x 0 0 Fragment	52 bytes on wi , Src: PremaxP stocol Version: 4 - Version: 4 Liedadr Len sisted Service sight: 548 action: 0x32f9 000 - Reserve - Don't fi - More fr offset: 1480	re (4496 bits), 562 bytes capture re [8a:70:1a (00:20:e0:8a:70:1a), D 4, Src: 192.168.1.102, Dst: 128. gth: 20 bytes (5) s Field: 0x00 (DSCP: CS0, ECN: No (13049) d bit: Not set ragment: Not set	st: Linksysg_da:af:73 (00: 59.23.100	96:25:da:af:73	
Ethernet II, Internet Pro 0100 0101 Different Total Len Identific Flags: 0x 0 0 Fragment Time to 1	52 bytes on wi , Src: PremaxPotocol Version: 4 L = Header L = Header L tated Service ugth: 548 cation: 0x32f9 000 — Reserve — Don't f — More fro offset: 1480 Live: 1	re (4496 bits), 562 bytes capture e 8a:70:1a (80:20:e0:8a:70:1a), D 4, Src: 192.168.1.102, Dst: 128. gth: 20 bytes (5) s Field: 0x00 (DSCP: CS0, ECN: No (13049) d bit: Not set ragment: Not set agments: Not set	st: Linksysg_da:af:73 (00: 59.23.100	06:25:da:af:73	
Ethernet II, Internet Pro 0100 0101 > Different Total Len Identific Flags: 0x 0 0 Fragment Time to 1 [Exper	52 bytes on wi , Src: PremaxP stocol Version: 4 L = Header Len ciated Service ngth: 548 cation: 0x32f9 000 = Reserve = Don't f = More fr offset: 1480 Live: 1 t Info (Note/:	re (4496 bits), 562 bytes capture re [8a:70:1a (00:20:e0:8a:70:1a), D 4, Src: 192.168.1.102, Dst: 128. gth: 20 bytes (5) s Field: 0x00 (DSCP: CS0, ECN: No (13049) d bit: Not set ragment: Not set	st: Linksysg_da:af:73 (00: 59.23.100	06:25:da:af:73	
Ethernet II, Internet Pro 0100 0101 > Different Total Len Identific Flags: 0x 0 00 Fragment Time to 1 > [Exper- Protocol:	52 bytes on wi , Src: PremaxPotocol Version: = Version: 4 L = Header Lenicated Service night: 548 night: 548 night: 548 night: 548 night: 548 night: 548 night: 548 night: 548 night: 548 night: 1480 live: 1 t Info (Note/: t Info (Note/:	re (4496 bits), 562 bytes capture re [8a:70:1a (00:20:e0:8a:70:1a), 0 4, Src: 192.168.1.102, Ost: 128. gth: 20 bytes (5) s Field: 0x00 (DSCP: CS0, ECN: No (13049) d bit: Not set ragment: Not set agments: Not set Sequence): "Time To Live" only 1]	st: Linksysg_da:af:73 (00: 59.23.100	06:25:da:af:73	
Ethernet II, Internet Pro 0100 0101 > Different Total Len Identific > Flags: 0x 0 0 0 Fragment > Time to 1 > [Exper- Protocol: Header ch	52 bytes on wi , Src: PremaxP stocol Version L = Version: 0 L = Header Len ciated Service ught: 548 cation: 0x32f9 color 	re (4496 bits), 562 bytes capture e 8a:70:1a (00:20:e0:8a:70:1a), D 4, Src: 192.168.1.102, Dst: 128. gth: 20 bytes (5) s Field: 0x00 (DSCP: CS0, ECN: No (13049) d bit: Not set ragments: Not set agments: Not set Sequence): "Time To Live" only 1] a [validation disabled]	st: Linksysg_da:af:73 (00: 59.23.100	06:25:də:af:73	
Ethernet II, Internet Pro 0100 0101 > Different Total Len Identific Flags: 0x 0 0 Fragment Time to 1 [Exper Protocol: Header ch	52 bytes on wi , Src: PremaxP otocol Version: 4 1 = Header Len ciated Service ugth: 548 cation: 0x32f9 600 = Reserve = Don't f = More fr offset: 1480 clive: 1 t Info (Note/: I IMP (1) checksum: 0x2a7	re (4496 bits), 562 bytes capture re [8a:70:1a (00:20:e0:8a:70:1a), 0 4, Src: 192.168.1.102, Ost: 128. gth: 20 bytes (5) s Field: 0x00 (DSCP: CS0, ECN: No (13049) d bit: Not set ragment: Not set agments: Not set Sequence): "Time To Live" only 1]	st: Linksysg_da:af:73 (00: 59.23.100	06:25:da:af:73	1514 Fragmented TD nontocal (nontomTCMD 1 off=0 TDm3380) [Reascembled in #1
Ethernet II, Internet Pro 0100 0101 0101 > Different Total Len Identific Flags: 0x 0 0 Fragment Time to 1 Exper Protocol: Header ch [Header cc Source: 1	52 bytes on wi , Src: PremaxP stocol Version of L = Header Len eight: 548 action: 0x32f9 600 = Reserve = More fr offset: 1480 live: 1 t Info (Note/: : ICMP (1) necksum: 0x2a7 checksum statu 192.168.1.102	re (4496 bits), 562 bytes capture e 8a:70:1a (80:20:e0:8a:70:1a), D 4, Src: 192.168.1.102, Dst: 128. gth: 20 bytes (5) s Field: 0x00 (DSCP: CS0, ECN: No (13049) d bit: Not set ragment: Not set agments: Not set Sequence): "Time To Live" only 1] a [validation disabled] s: Unverified]	st: Linksysg_da:af:73 (00: 59.23.100	06:25:də:af:73	
Ethernet II, Internet Pro 0100 0110 Different Total Len Identific Flags: 0x 0 0 Fragment Time to 1 [Exper Protocol: Header c Source: 1 Destinati	52 bytes on wi , Src: PremaxP stocol Version: 4 i = Header Len iiated Service iight: 548 con = Reserve con = Reserve iine iine iine iine iive: 1 t Info (Note/: I IMP (1) ecksum: 0x2a7 checksum statu 192-168.1.102 lon: 128.59.23	re (4496 bits), 562 bytes capture re (8476 bits), 562 bytes capture re (8476 bits), 562 bytes capture 4, Src: 192.168.1.102, Dst: 128. gth: 20 bytes (5) s Field: 0x00 (DSCP: CS0, ECN: No (13049) d bit: Not set ragment: Not set agments: Not set Sequence): "Time To Live" only 1] a [validation disabled] s: Unverified]	st: Linksysg_da:af:73 (00: 59.23.100	06:25:da:af:73	
Ethernet II, Internet Pro 0100 0101 Different Total Len Identific Flags: 0x 0 0 Fragment Time to 1 [Exper Protocol: Header ck [Header ck Cource: 1 Destinati [Source 6	52 bytes on wi , Src: PremaxP stocol Version . = Version: 4 . = Header Len ciated Service (80 = Reserve = More fr. offset: 1480 blive: 1 = IMF (Note/: = IMF (re (4496 bits), 562 bytes capture e 8a:70:1a (80:20:e0:8a:70:1a), D 4, Src: 192.168.1.102, Dst: 128. gth: 20 bytes (5) s Field: 0x00 (DSCP: CS0, ECN: No (13049) d bit: Not set ragment: Not set agments: Not set sequence): "Time To Live" only 1] a [validation disabled] s: Unverified] 100]	st: Linksysg_da:af:73 (00: 59.23.100	06:25:da:af:73	
Ethernet II, Internet Pro 0100 0101 Different Total Len Identific Flags: 0x 0 0 0 Fragment Time to 1 Flags: 0x 1 Flags	52 bytes on wi , Src: PremaxP stocol Version . = Version: 0. L = Header Len ciated Service upth: 548 color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of th	re (4496 bits), 562 bytes capture e 8a:70:1a (80:20:e0:8a:70:1a), D 4, Src: 192.168.1.102, Dst: 128. gth: 20 bytes (5) s Field: 0x00 (DSCP: CS0, ECN: No (13049) d bit: Not set ragment: Not set agments: Not set sequence): "Time To Live" only 1] a [validation disabled] s: Unverified] 100]	st: Linksysg_da:af:73 (00: 59.23.100	06:25:da:af:73	

13. What fields change in the IP header between the first and second fragment?

The fields that changed were the Total Length, More Segments Flag, Fragment Offset, and Header Checksum.

14. How many fragments were created from the original datagram?

2 Fragments were created form the original datagram

15. What fields change in the IP header among the fragments?

The fields that changed were the Total Length, More Segments Flag, Fragment Offset, and Header Checksum. The length changes because there is max size of 1500 bytes (+20 byte header), so all fragments will have a size of 1500 until the final fragments which will have the remainder.

The More Segments Flag changes to indicate there is more information to be sent. Thus the final fragment will not have the More Segments Flag set, shown by the second fragment. The Fragment Offset differs to indicate how the fragments will be set. The Header Checksum differs since the data within the header changes.