Esercizio 1						Esercizio 2						Esercizio 3						Punti/voto
a	b	c	d	e	f	a	b	c	d	e	f	a	b	c	d	e	f	

1. Data la seguente videata di Wireshark, rispondi alle domande che seguono:

```
No. .  Time       Source            Destination        Protocol  Info
    1 0.000000    192.168.0.101     239.255.255.250    IGMP      V2 Membership Report
    2 0.327669    192.168.0.101     67.228.110.120     TCP       2013 > http [FIN, ACK] Seq=53085298 Ack=3518495426 Win=16343 Len=0
    3 1.263648    192.168.0.101     87.5.64.83         TCP       1749 > 36887 [RST, ACK] Seq=1375607223 Ack=2278493310 Win=0 Len=0
    4 2.379864    192.168.0.101     192.168.0.1        DNS       Standard query A www.facebook.com
    5 2.402353    192.168.0.1       192.168.0.101      DNS       Standard query response A 69.63.181.12
    6 2.417958    67.228.110.120    192.168.0.101      HTTP      Continuation or non-HTTP traffic
    7 2.418017    192.168.0.101     67.228.110.120     TCP       2009 > http [RST, ACK] Seq=3832315217 Ack=1883313900 Win=0 Len=0
    8 2.446001    192.168.0.101     69.63.181.12       TCP       2021 > http [SYN] Seq=451960531 Len=0 MSS=1460
    9 2.616291    69.63.181.12      192.168.0.101      TCP       http > 2021 [SYN, ACK] Seq=3573893939 Ack=451960532 Win=4380 Len=0 MSS=1460
   10 2.616368    192.168.0.101     69.63.181.12       TCP       2021 > http [ACK] Seq=451960532 Ack=3573893940 Win=17520 Len=0
   11 2.616526    192.168.0.101     69.63.181.12       HTTP      GET / HTTP/1.1
   12 2.786745    69.63.181.12      192.168.0.101      TCP       http > 2021 [ACK] Seq=3573893940 Ack=451961233 Win=5081 Len=0
   13 3.409888    69.63.181.12      192.168.0.101      TCP       [TCP segment of a reassembled PDU]
   14 3.411640    69.63.181.12      192.168.0.101      TCP       [TCP segment of a reassembled PDU]
   15 3.411673    192.168.0.101     69.63.181.12       TCP       2021 > http [ACK] Seq=451961233 Ack=3573896860 Win=17520 Len=0
   16 3.413716    69.63.181.12      192.168.0.101      TCP       [TCP segment of a reassembled PDU]
   17 3.415482    69.63.181.12      192.168.0.101      TCP       [TCP segment of a reassembled PDU]
   18 3.415497    192.168.0.101     69.63.181.12       TCP       2021 > http [ACK] Seq=451961233 Ack=3573899780 Win=17520 Len=0
   19 3.418388    69.63.181.12      192.168.0.101      TCP       [TCP segment of a reassembled PDU]
   20 3.420545    69.63.181.12      192.168.0.101      TCP       [TCP segment of a reassembled PDU]
   21 3.420560    192.168.0.101     69.63.181.12       TCP       2021 > http [ACK] Seq=451961233 Ack=3573902700 Win=17520 Len=0
   22 3.423712    69.63.181.12      192.168.0.101      TCP       [TCP segment of a reassembled PDU]

⊞ Frame 11 (755 bytes on wire, 755 bytes captured)
⊞ Ethernet II, Src: IntelCor_79:6f:d5 (00:1b:77:79:6f:d5), Dst: D-Link_fb:16:a4 (00:1b:11:fb:16:a4)
⊞ Internet Protocol, Src: 192.168.0.101 (192.168.0.101), Dst: 69.63.181.12 (69.63.181.12)
⊞ Transmission Control Protocol, Src Port: 2021 (2021), Dst Port: http (80), Seq: 451960532, Ack: 3573893940, Len: 701
⊟ Hypertext Transfer Protocol
  ⊟ GET / HTTP/1.1\r\n
     Request Method: GET
     Request URI: /
     Request Version: HTTP/1.1
   Accept: image/gif, image/jpeg, image/pjpeg, application/x-ms-application, application/vnd.ms-xpsdocument, application/xaml+xml, application/x-ms-xbap, appl
   Accept-Language: it\r\n
   User-Agent: Mozilla/4.0 (compatible; MSIE 7.0; Windows NT 6.0; Trident/4.0; GTB5; SLCC1; .NET CLR 2.0.50727; Media Center PC 5.0; .NET CLR 3.5.30729; .NET
   Accept-Encoding: gzip, deflate\r\n
   Host: www.facebook.com\r\n
   Connection: Keep-Alive\r\n
   Cookie: datr=1252072597-f7c5d021bddcc57652fe6ca484621ffda2b0d6760579ae68021b6; ABT=%3A%3A%232dd086ca2a46e9e50fff44e0ec48cb811st0%3A1253890471%3AB\r\n
   \r\n
```

a) Indirizzo IP del client HTTP	
b) Pacchetti relativi all'handshaking	
c) Dimensione del segmento evidenziato	
d) Indirizzo IP del server HTTP	
e) Sito all'indirizzo 69.63.181.12	
f) Sistema operativo del client	

2. Data la seguente videata di Wireshark, rispondi alle domande che seguono:

No.	Time	Source	Destination	Protocol	Info
1	0.000000	10.0.0.4	204.156.128.1	DNS	Standard query A smtp.best.com
2	0.023343	204.156.128.1	10.0.0.4	DNS	Standard query response A 206.184.139.15 A 206.184.139.14
3	0.028478	10.0.0.4	206.184.139.15	TCP	1047 > smtp [SYN] Seq=0 [TCP CHECKSUM INCORRECT] Len=0 MSS=1460
4	0.042226	206.184.139.15	10.0.0.4	TCP	smtp > 1047 [SYN, ACK] Seq=0 Ack=1 Win=17520 [TCP CHECKSUM INCORRECT] Len=0 MSS=1460
5	0.042401	10.0.0.4	206.184.139.15	TCP	1047 > smtp [ACK] Seq=1 Ack=1 Win=8760 [TCP CHECKSUM INCORRECT] Len=0
6	0.083614	206.184.139.15	10.0.0.4	TCP	3407 > auth [SYN] Seq=0 [TCP CHECKSUM INCORRECT] Len=0 MSS=1460 WS=0 TSV=22246981 TSER=0 CC=?
7	0.083768	10.0.0.4	206.184.139.15	TCP	auth > 3407 [RST, ACK] Seq=0 Ack=1 Win=0 [TCP CHECKSUM INCORRECT] Len=0
8	0.105682	206.184.139.15	10.0.0.4	SMTP	Response: 220 proxy4.ba.best.com ESMTP server ready; Thu, 25 Jan 2001 12:03:03 -0800 (PST)
9	0.107659	10.0.0.4	206.184.139.15	SMTP	Command: EHLO packet-level.com
10	0.127527	206.184.139.15	10.0.0.4	SMTP	Response: 250-proxy4.ba.best.com Hello 010-00-000-04.ncal.verio.com [207.33.247.67] (may be
11	0.292331	10.0.0.4	206.184.139.15	TCP	1047 > smtp [ACK] Seq=24 Ack=183 Win=8578 [TCP CHECKSUM INCORRECT] Len=0
12	0.309667	206.184.139.15	10.0.0.4	SMTP	Response: o meet you
13	0.310708	10.0.0.4	206.184.139.15	SMTP	Command: MAIL FROM:<lchappell@packet-level.com>
14	0.339781	206.184.139.15	10.0.0.4	SMTP	Response: 250 <lchappell@packet-level.com>... Sender ok

```
⊞ Frame 2 (215 bytes on wire, 215 bytes captured)
⊞ Ethernet II, Src: Farallon_7b:6f:64 (00:00:c5:7b:6f:64), Dst: Runtop_e0:e4:4f (00:20:78:e0:e4:4f)
⊞ Internet Protocol, Src: 204.156.128.1 (204.156.128.1), Dst: 10.0.0.4 (10.0.0.4)
⊟ User Datagram Protocol, Src Port: domain (53), Dst Port: 1046 (1046)
      Source port: domain (53)
      Destination port: 1046 (1046)
      Length: 181
      Checksum: 0x3024 [incorrect, should be 0xec85]
⊟ Domain Name System (response)
      Transaction ID: 0x0003
   ⊞ Flags: 0x8180 (Standard query response, No error)
      Questions: 1
      Answer RRs: 2
      Authority RRs: 3
      Additional RRs: 3
   ⊟ Queries
      ⊞ smtp.best.com: type A, class IN
   ⊟ Answers
      ⊞ smtp.best.com: type A, class IN, addr 206.184.139.15
      ⊞ smtp.best.com: type A, class IN, addr 206.184.139.14
   ⊞ Authoritative nameservers
   ⊞ Additional records
```

a) Indirizzo IP del client DNS	
b) Protocollo di trasporto del frame evidenziato	
c) Comandi presenti nello screenshot	
d) Indirizzo IP del server DNS	
e) Indirizzo IP di smtp.best.com	
f) Maximum Segment Size	

3. Data la seguente videata di Wireshark, rispondi alle domande che seguono:

```
No. .  Time       Source      Destination  Protocol  Info
53 19.834846  10.2.0.2    10.2.0.1     TCP       1064 > 1049 [FIN, ACK] Seq=1 Ack=20 Win=8742 Len=0
54 19.843072  10.2.0.1    10.2.0.2     TCP       1049 > 1064 [ACK] Seq=20 Ack=2 Win=8760 Len=0
55 27.712938  10.2.0.2    10.2.0.1     FTP       Request: PORT 10,2,0,2,4,41
56 27.720549  10.2.0.1    10.2.0.2     FTP       Response: 200 PORT Command Accepted
57 27.747986  10.2.0.2    10.2.0.1     FTP       Request: STOR projects.txt
58 27.759478  10.2.0.1    10.2.0.1     TCP       1050 > 1065 [SYN] Seq=0 Len=0 MSS=1460
59 27.759824  10.2.0.2    10.2.0.1     TCP       1065 > 1050 [SYN, ACK] Seq=0 Ack=1 Win=8760 Len=0 MSS=1460
60 27.759969  10.2.0.1    10.2.0.2     TCP       1050 > 1065 [ACK] Seq=1 Ack=1 Win=8760 Len=0
61 27.760623  10.2.0.1    10.2.0.2     FTP       Response: 150 Ready for transfer
62 27.790398  10.2.0.2    10.2.0.1     TCP       [TCP segment of a reassembled PDU]
63 27.872046  10.2.0.2    10.2.0.1     TCP       1062 > ftp [ACK] Seq=129 Ack=377 Win=8384 Len=0
64 27.948681  10.2.0.1    10.2.0.2     TCP       1050 > 1065 [ACK] Seq=1 Ack=1357 Win=7404 Len=0
65 27.949069  10.2.0.1    10.2.0.1     TCP       1065 > 1050 [FIN, ACK] Seq=1357 Ack=1 Win=8760 Len=0
66 27.949176  10.2.0.1    10.2.0.2     TCP       1050 > 1065 [ACK] Seq=1 Ack=1358 Win=7404 Len=0
67 27.949653  10.2.0.1    10.2.0.2     FTP       Response: 226 Transfer complete.
68 27.950858  10.2.0.1    10.2.0.2     TCP       1050 > 1065 [FIN, ACK] Seq=1 Ack=1358 Win=7404 Len=0
69 27.951202  10.2.0.2    10.2.0.1     TCP       1065 > 1050 [ACK] Seq=1358 Ack=2 Win=8760 Len=0
70 28.072030  10.2.0.1    10.2.0.2     TCP       1062 > ftp [ACK] Seq=129 Ack=401 Win=8360 Len=0
71 29.847461  10.2.0.2    10.2.0.1     FTP       Request: PORT 10,2,0,2,4,42
72 29.855145  10.2.0.1    10.2.0.2     FTP       Response: 200 PORT Command Accepted
73 29.881600  10.2.0.2    10.2.0.1     FTP       Request: NLST
74 29.888586  10.2.0.1    10.2.0.2     TCP       1051 > 1066 [SYN] Seq=0 Len=0 MSS=1460
75 29.888994  10.2.0.2    10.2.0.1     TCP       1066 > 1051 [SYN, ACK] Seq=0 Ack=1 Win=8760 Len=0 MSS=1460
```

```
⊞ Frame 67 (82 bytes on wire, 82 bytes captured)
⊞ Ethernet II, Src: Runtop_e1:5a:80 (00:20:78:e1:5a:80), Dst: Lite-OnC_30:c8:db (00:a0:cc:30:c8:db)
⊞ Internet Protocol, Src: 10.2.0.1 (10.2.0.1), Dst: 10.2.0.2 (10.2.0.2)
⊟ Transmission Control Protocol, Src Port: ftp (21), Dst Port: 1062 (1062), Seq: 377, Ack: 129, Len: 24
    Source port: ftp (21)
    Destination port: 1062 (1062)
    Sequence number: 377    (relative sequence number)
    [Next sequence number: 401    (relative sequence number)]
    Acknowledgement number: 129    (relative ack number)
    Header length: 20 bytes
  ⊞ Flags: 0x0018 (PSH, ACK)
    Window size: 8632
    Checksum: 0x8d31 [correct]
⊟ File Transfer Protocol (FTP)
  ⊟ 226 Transfer complete.\r\n
      Response code: Closing data connection (226)
      Response arg: Transfer complete.
```

a) Indirizzo IP del client FTP	
b) Messaggi che partono dal client	
c) Codici di stato presenti nello screenshot	
d) Indirizzo IP del server FTP	
e) Pacchetti relativi all'attivazione della connessione	
f) Dimensione dell'intestazione del segmento evidenziato	

Esercizio 1

a) Indirizzo IP del client DNS	192.168.0.101
b) Protocollo di trasporto del frame evidenziato	8, 9, 10
c) Comandi presenti nello screenshot	701
d) Indirizzo IP del server DNS	69.63.181.12
e) Indirizzo IP di smtp.best.com	www.facebook.com
f) Maximum Segment Size	Windows NT 6.0 (Vista)

Esercizio 2

Indirizzo IP del client DNS	10.0.0.4
Protocollo di trasporto del frame evidenziato	UDP
Comandi presenti nello screenshot	EHLO, MAIL
Indirizzo IP del server DNS	204.156.128.1
Indirizzo IP di smtp.best.com	206.184.139.15 206.184.139.14
Maximum Segment Size	1460

Esercizio 3

Indirizzo IP del client FTP	10.2.0.2
Messaggi che partono dal client	PORT, STOR, PORT, NLST
Codici di stato presenti nello screenshot	200, 150, 226
Indirizzo IP del server FTP	10.2.0.1
Pacchetti relativi all'attivazione della connessione	58, 59, 60
Dimensione dell'intestazione del segmento evidenziato	20