פרוטוקול – תרגיל 2

User choice	Answer	
	Client's question	Client answer according to Server response
1	Get the time	The time is: (Sunday-Saturday, month, day, time, year)
2	Get the time without date	(hh:mm:ss)
3	Get the time since epoch (displayed seconds only)	The time since epoch by seconds: (seconds)
4	Get client to server delay estimation	Client to server delay estimation is: (delay in milliseconds)
5	Measure RTT (round trip time)	Measure RTT is: (RTT in milliseconds)
6	Get time without date and seconds	The time without date or seconds is: (hh:mm)
7	Get year only	The current year is: (year)
8	Get month and day only	The current month and day is: (month, day)
9	Get seconds since beginning of current month	(seconds) seconds passed since the beginning of the month
10	Get number of week since beginning of current year	(weeks) weeks passed since the beginning of the year

11	Get daylight saving	It's daylight!	It's not daylight

12	Get time without date in city	Choice	City
		1	The time in **Tokyo, Japan** is: (homes)
		2	The time in **Melbourne, Australia** is: (hh:mm:ss)
		3	The time in **San Francisco, USA** is: (hh:mm:ss)
		4	The time in **Porto, Portugal** is: (hh:mm:ss)
		Any other number	UTC is: (hh:mm:ss)

13	Measure time lapse	First request	Second request	Second request (after 3 or more minutes left from the first request)
		Measure time lap started!	Measure time lap stop. The time lapse that has been past is: (seconds) seconds	Measure time lap have been stopped because 3 minutes or more have passed.

14	Exit – Client closing connection	
Any other number	The number you entered is illegal.	

צילומי מסך של תוכנת Wireshark בזמן הרצת התרגיל:

1. המשתמש בחר "1":

```
     1 0.000000      127.0.0.1        127.0.0.1        UDP    34 53753 → 27015 Len=2
     2 0.000918      127.0.0.1        127.0.0.1        UDP    69 27015 → 53753 Len=37

> Frame 1: 34 bytes on wire (272 bits), 34 bytes captured (272 bits) on interface \Device\NPF_Loopback, id 0
> Null/Loopback
> Internet Protocol Version 4, Src: 127.0.0.1, Dst: 127.0.0.1
> User Datagram Protocol, Src Port: 53753, Dst Port: 27015
∨ Data (2 bytes)
    Data: 0001
    [Length: 2]

0000  02 00 00 00 45 00 00 1e  6c 4c 00 00 80 11 00 00   ····E··· lL······
0010  7f 00 00 01 7f 00 00 01  d1 f9 69 87 00 0a c6 55   ········ ··i····U
0020  00 01                                              ··
```

חזרה התשובה כמתואר בפרוטוקול:

```
     1 0.000000      127.0.0.1        127.0.0.1        UDP    34 53753 → 27015 Len=2
     2 0.000918      127.0.0.1        127.0.0.1        UDP    69 27015 → 53753 Len=37

> Frame 2: 69 bytes on wire (552 bits), 69 bytes captured (552 bits) on interface \Device\NPF_Loopback, id 0
> Null/Loopback
> Internet Protocol Version 4, Src: 127.0.0.1, Dst: 127.0.0.1
> User Datagram Protocol, Src Port: 27015, Dst Port: 53753
∨ Data (37 bytes)
    Data: 5468652074696d652069733a20576564204170722020362031373a31393a333420323032…
    [Length: 37]

0000  02 00 00 00 45 00 00 41  6c 4d 00 00 80 11 00 00   ····E··A lM······
0010  7f 00 00 01 7f 00 00 01  69 87 d1 f9 00 2d d0 2a   ········ i·····*
0020  54 68 65 20 74 69 6d 65  20 69 73 3a 20 57 65 64   The time  is: Wed
0030  20 41 70 72 20 20 36 20  31 37 3a 31 39 3a 33 34    Apr  6  17:19:34
0040  20 32 30 32 32                                      2022
```

2. המשתמש בחר "2":

```
     1 0.000000      127.0.0.1        127.0.0.1        UDP    34 53753 → 27015 Len=2
     2 0.004410      127.0.0.1        127.0.0.1        UDP    40 27015 → 53753 Len=8

> Frame 1: 34 bytes on wire (272 bits), 34 bytes captured (272 bits) on interface \Device\NPF_Loopback, id 0
> Null/Loopback
> Internet Protocol Version 4, Src: 127.0.0.1, Dst: 127.0.0.1
> User Datagram Protocol, Src Port: 53753, Dst Port: 27015
∨ Data (2 bytes)
    Data: 0002
    [Length: 2]

0000  02 00 00 00 45 00 00 1e  6c 4a 00 00 80 11 00 00   ····E··· lJ······
0010  7f 00 00 01 7f 00 00 01  d1 f9 69 87 00 0a c6 54   ········ ··i····T
0020  00 02                                              ··
```

חזרה התשובה כמתואר בפרוטוקול:

```
     1 0.000000      127.0.0.1        127.0.0.1        UDP    34 53753 → 27015 Len=2
     2 0.004410      127.0.0.1        127.0.0.1        UDP    40 27015 → 53753 Len=8

> Frame 2: 40 bytes on wire (320 bits), 40 bytes captured (320 bits) on interface \Device\NPF_Loopback, id 0
> Null/Loopback
> Internet Protocol Version 4, Src: 127.0.0.1, Dst: 127.0.0.1
> User Datagram Protocol, Src Port: 27015, Dst Port: 53753
∠ Data (8 bytes)
    Data: 31373a31373a3537
    [Length: 8]

0000  02 00 00 00 45 00 00 24  6c 4b 00 00 80 11 00 00   ····E··$ lK······
0010  7f 00 00 01 7f 00 00 01  69 87 d1 f9 00 10 ee 70   ········ i······p
0020  31 37 3a 31 37 3a 35 37                            17:17:57
```

3. המשתמש בחר "3":

```
     1 0.000000      127.0.0.1        127.0.0.1        UDP    34 53753 → 27015 Len=2
     2 0.002383      127.0.0.1        127.0.0.1        UDP    75 27015 → 53753 Len=43

> Frame 1: 34 bytes on wire (272 bits), 34 bytes captured (272 bits) on interface \Device\NPF_Loopback, id 0
> Null/Loopback
> Internet Protocol Version 4, Src: 127.0.0.1, Dst: 127.0.0.1
> User Datagram Protocol, Src Port: 53753, Dst Port: 27015
∨ Data (2 bytes)
    Data: 0003
    [Length: 2]

0000  02 00 00 00 45 00 00 1e  6c 50 00 00 80 11 00 00   ····E··· lP······
0010  7f 00 00 01 7f 00 00 01  d1 f9 69 87 00 0a c6 53   ········ ··i····S
0020  00 03                                              ··
```

חזרה התשובה כמתואר בפרוטוקול:

```
     1 0.000000      127.0.0.1          127.0.0.1          UDP      34 53753 → 27015 Len=2
     2 0.002383      127.0.0.1          127.0.0.1          UDP      75 27015 → 53753 Len=43
```

```
> Frame 2: 75 bytes on wire (600 bits), 75 bytes captured (600 bits) on interface \Device\NPF_Loopback, id 0
> Null/Loopback
> Internet Protocol Version 4, Src: 127.0.0.1, Dst: 127.0.0.1
> User Datagram Protocol, Src Port: 27015, Dst Port: 53753
✓ Data (43 bytes)
     Data: 5468652074696d652073696e63652065706f6368206279207365636f6e64733a20313634…
     [Length: 43]
```

```
0000  02 00 00 00 45 00 00 47  6c 51 00 00 80 11 00 00   ····E··G lQ······
0010  7f 00 00 01 7f 00 00 01  69 87 d1 f9 00 33 c2 2f   ········ i····3·/
0020  54 68 65 20 74 69 6d 65  20 73 69 6e 63 65 20 65   The time  since e
0030  70 6f 63 68 20 62 79 20  73 65 63 6f 6e 64 73 3a   poch by   seconds:
0040  20 31 36 34 39 32 35 34  38 37 38                   1649254 878
```
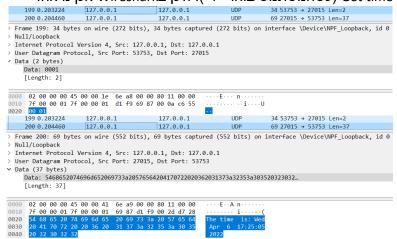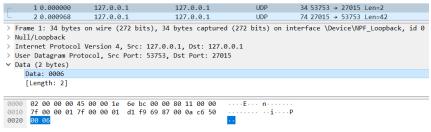
4. המשתמש בחר "4": (התשובה המודפסת בסופו של דבר היא הממוצע אותו הלקוח מחשב ולכן, התשובה פה היא לא התשובה בפרוטוקול)

```
No.     Time        Source           Destination        Protocol  Length  Info
   199 0.211442     127.0.0.1        127.0.0.1          UDP       48      27015 → 53753 Len=16
   200 0.212787     127.0.0.1        127.0.0.1          UDP       48      27015 → 53753 Len=16
```

```
> Frame 200: 48 bytes on wire (384 bits), 48 bytes captured (384 bits) on interface \Device\NPF_Loopback, id 0
> Null/Loopback
> Internet Protocol Version 4, Src: 127.0.0.1, Dst: 127.0.0.1
> User Datagram Protocol, Src Port: 27015, Dst Port: 53753
✓ Data (16 bytes)
     Data: 3136393039303333333362e303030303030
     [Length: 16]
```

```
0000  02 00 00 00 45 00 00 2c  6d 19 00 00 80 11 00 00   ····E··, m······
0010  7f 00 00 01 7f 00 00 01  69 87 d1 f9 00 18 28 b2   ········ i·····(·
0020  31 36 39 30 39 30 33 33  36 2e 30 30 30 30 30 30   16909033 6.000000
```

5. המשתמש בחר "5": התשובה לא רלוונטית, בחרתי לשלוח חזרה את התשובה לבקשה של Get time (כשהמשתמש בוחר "1"). ולכן בWireshark אכן נראה:

```
   199 0.203224     127.0.0.1        127.0.0.1          UDP       34  53753 → 27015 Len=2
   200 0.204460     127.0.0.1        127.0.0.1          UDP       69  27015 → 53753 Len=37
```

```
> Frame 199: 34 bytes on wire (272 bits), 34 bytes captured (272 bits) on interface \Device\NPF_Loopback, id 0
> Null/Loopback
> Internet Protocol Version 4, Src: 127.0.0.1, Dst: 127.0.0.1
> User Datagram Protocol, Src Port: 53753, Dst Port: 27015
✓ Data (2 bytes)
     Data: 0001
     [Length: 2]
```

```
0000  02 00 00 00 45 00 00 1e  6e a8 00 00 80 11 00 00   ····E··· n······
0010  7f 00 00 01 7f 00 00 01  d1 f9 69 87 00 0a c6 55   ········ ··i····U
0020  00 01                                               ··
```

```
   199 0.203224     127.0.0.1        127.0.0.1          UDP       34  53753 → 27015 Len=2
   200 0.204460     127.0.0.1        127.0.0.1          UDP       69  27015 → 53753 Len=37
```

```
> Frame 200: 69 bytes on wire (552 bits), 69 bytes captured (552 bits) on interface \Device\NPF_Loopback, id 0
> Null/Loopback
> Internet Protocol Version 4, Src: 127.0.0.1, Dst: 127.0.0.1
> User Datagram Protocol, Src Port: 27015, Dst Port: 53753
✓ Data (37 bytes)
     Data: 5468652074696d652069733a20576564204170722020362031373a32353a303520323032…
     [Length: 37]
```

```
0000  02 00 00 00 45 00 00 41  6e a9 00 00 80 11 00 00   ····E··A n······
0010  7f 00 00 01 7f 00 00 01  69 87 d1 f9 00 2d d7 28   ········ i····-·(
0020  54 68 65 20 74 69 6d 65  20 69 73 3a 20 57 65 64   The time  is: Wed
0030  20 41 70 72 20 20 36 20  31 37 3a 32 35 3a 30 35    Apr  6  17:25:05
0040  20 32 30 32 32                                      2022
```

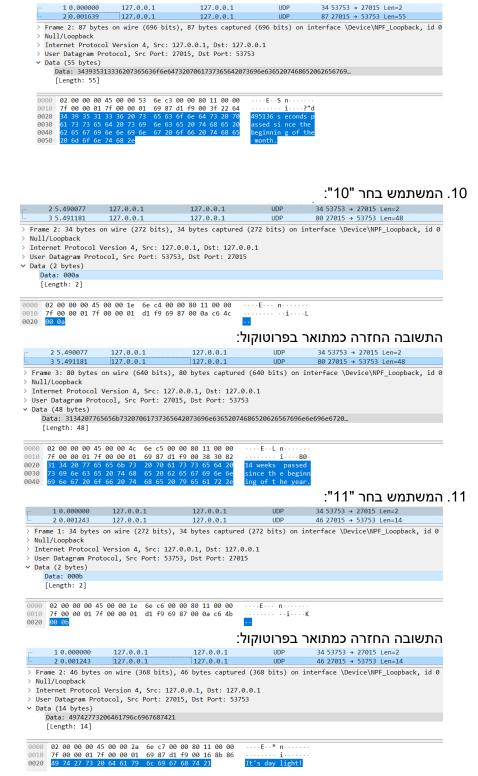6. המשתמש בחר "6":

```
     1 0.000000      127.0.0.1          127.0.0.1          UDP      34 53753 → 27015 Len=2
     2 0.000968      127.0.0.1          127.0.0.1          UDP      74 27015 → 53753 Len=42
```

```
> Frame 1: 34 bytes on wire (272 bits), 34 bytes captured (272 bits) on interface \Device\NPF_Loopback, id 0
> Null/Loopback
> Internet Protocol Version 4, Src: 127.0.0.1, Dst: 127.0.0.1
> User Datagram Protocol, Src Port: 53753, Dst Port: 27015
✓ Data (2 bytes)
     Data: 0006
     [Length: 2]
```

```
0000  02 00 00 00 45 00 00 1e  6e bc 00 00 80 11 00 00   ····E··· n······
0010  7f 00 00 01 7f 00 00 01  d1 f9 69 87 00 0a c6 50   ········ ··i····P
0020  00 06                                               ··
```

חזרה התשובה כמתואר בפרוטוקול:

```
   1 0.000000      127.0.0.1        127.0.0.1        UDP    34 53753 → 27015 Len=2
   2 0.000968      127.0.0.1        127.0.0.1        UDP    74 27015 → 53753 Len=42
```
> Frame 2: 74 bytes on wire (592 bits), 74 bytes captured (592 bits) on interface \Device\NPF_Loopback, id 0
> Null/Loopback
> Internet Protocol Version 4, Src: 127.0.0.1, Dst: 127.0.0.1
> User Datagram Protocol, Src Port: 27015, Dst Port: 53753
∨ Data (42 bytes)
    Data: 5468652074696d6520776974686f7574206461746520f72207365636f6e64732069733a...
    [Length: 42]

```
0000  02 00 00 00 45 00 00 46  6e bd 00 00 80 11 00 00   ····E··F n·······
0010  7f 00 00 01 7f 00 00 01  69 87 d1 f9 00 32 f5 75   ········ i····2·u
0020  54 68 65 20 74 69 6d 65  20 77 69 74 68 6f 75 74   The time  without
0030  20 64 61 74 65 20 6f 72  20 73 65 63 6f 6e 64 73    date or  seconds
0040  20 69 73 3a 20 31 37 3a  32 37                      is: 17: 27
```

7. ‏:"7" המשתמש בחר

```
   1 0.000000      127.0.0.1        127.0.0.1        UDP    34 53753 → 27015 Len=2
   2 0.000940      127.0.0.1        127.0.0.1        UDP    57 27015 → 53753 Len=25
```
> Frame 1: 34 bytes on wire (272 bits), 34 bytes captured (272 bits) on interface \Device\NPF_Loopback, id 0
> Null/Loopback
> Internet Protocol Version 4, Src: 127.0.0.1, Dst: 127.0.0.1
> User Datagram Protocol, Src Port: 53753, Dst Port: 27015
∨ Data (2 bytes)
    Data: 0007
    [Length: 2]

```
0000  02 00 00 00 45 00 00 1e  6e be 00 00 80 11 00 00   ····E··· n·······
0010  7f 00 00 01 7f 00 00 01  d1 f9 69 87 00 0a c6 4f   ········ ··i····O
0020  00 07                                              ··
```

‏:התשובה החזרה כמתואר בפרוטוקול

```
   1 0.000000      127.0.0.1        127.0.0.1        UDP    34 53753 → 27015 Len=2
   2 0.000940      127.0.0.1        127.0.0.1        UDP    57 27015 → 53753 Len=25
```
> Frame 2: 57 bytes on wire (456 bits), 57 bytes captured (456 bits) on interface \Device\NPF_Loopback, id 0
> Null/Loopback
> Internet Protocol Version 4, Src: 127.0.0.1, Dst: 127.0.0.1
> User Datagram Protocol, Src Port: 27015, Dst Port: 53753
∨ Data (25 bytes)
    Data: 5468652063757272656e7420796561722069733a2032303232
    [Length: 25]

```
0000  02 00 00 00 45 00 00 35  6e bf 00 00 80 11 00 00   ····E··5 n·······
0010  7f 00 00 01 7f 00 00 01  69 87 d1 f9 00 21 6c 49   ········ i····!lI
0020  54 68 65 20 63 75 72 72  65 6e 74 20 79 65 61 72   The curr ent year
0030  20 69 73 3a 20 32 30 32  32                         is: 202 2
```

8. ‏:"8" המשתמש בחר

```
   1 0.000000      127.0.0.1        127.0.0.1        UDP    34 53753 → 27015 Len=2
   2 0.002876      127.0.0.1        127.0.0.1        UDP    69 27015 → 53753 Len=37
```
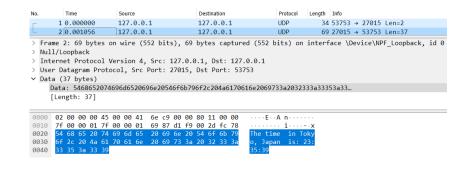> Frame 1: 34 bytes on wire (272 bits), 34 bytes captured (272 bits) on interface \Device\NPF_Loopback, id 0
> Null/Loopback
> Internet Protocol Version 4, Src: 127.0.0.1, Dst: 127.0.0.1
> User Datagram Protocol, Src Port: 53753, Dst Port: 27015
∨ Data (2 bytes)
    Data: 0008
    [Length: 2]

```
0000  02 00 00 00 45 00 00 1e  6e c0 00 00 80 11 00 00   ····E··· n·······
0010  7f 00 00 01 7f 00 00 01  d1 f9 69 87 00 0a c6 4e   ········ ··i····N
0020  00 08                                              ··
```

‏:התשובה החזרה כמתואר בפרוטוקול

```
   1 0.000000      127.0.0.1        127.0.0.1        UDP    34 53753 → 27015 Len=2
   2 0.002876      127.0.0.1        127.0.0.1        UDP    69 27015 → 53753 Len=37
```
> Frame 2: 69 bytes on wire (552 bits), 69 bytes captured (552 bits) on interface \Device\NPF_Loopback, id 0
> Null/Loopback
> Internet Protocol Version 4, Src: 127.0.0.1, Dst: 127.0.0.1
> User Datagram Protocol, Src Port: 27015, Dst Port: 53753
∨ Data (37 bytes)
    Data: 5468652063757272656e74206d6f6e746820616e6420646179206973a20417072696c20...
    [Length: 37]

```
0000  02 00 00 00 45 00 00 41  6e c1 00 00 80 11 00 00   ····E··A n·······
0010  7f 00 00 01 7f 00 00 01  69 87 d1 f9 00 2d 7c 6e   ········ i····-|n
0020  54 68 65 20 63 75 72 72  65 6e 74 20 6d 6f 6e 74   The curr ent mont
0030  68 20 61 6e 64 20 64 61  79 20 69 73 3a 20 41 70   h and da y is: Ap
0040  72 69 6c 20 36                                      ril 6
```

9. ‏:"9" המשתמש בחר

```
   1 0.000000      127.0.0.1        127.0.0.1        UDP    34 53753 → 27015 Len=2
   2 0.001639      127.0.0.1        127.0.0.1        UDP    87 27015 → 53753 Len=55
```
> Frame 1: 34 bytes on wire (272 bits), 34 bytes captured (272 bits) on interface \Device\NPF_Loopback, id 0
> Null/Loopback
> Internet Protocol Version 4, Src: 127.0.0.1, Dst: 127.0.0.1
> User Datagram Protocol, Src Port: 53753, Dst Port: 27015
∨ Data (2 bytes)
    Data: 0009
    [Length: 2]

```
0000  02 00 00 00 45 00 00 1e  6e c2 00 00 80 11 00 00   ····E··· n·······
0010  7f 00 00 01 7f 00 00 01  d1 f9 69 87 00 0a c6 4d   ········ ··i····M
0020  00 09                                              ··
```

‏:התשובה החזרה כמתואר בפרוטוקול

```
     1 0.000000      127.0.0.1        127.0.0.1       UDP    34 53753 → 27015 Len=2
     2 0.001639      127.0.0.1        127.0.0.1       UDP    87 27015 → 53753 Len=55
```
```
> Frame 2: 87 bytes on wire (696 bits), 87 bytes captured (696 bits) on interface \Device\NPF_Loopback, id 0
> Null/Loopback
> Internet Protocol Version 4, Src: 127.0.0.1, Dst: 127.0.0.1
> User Datagram Protocol, Src Port: 27015, Dst Port: 53753
∨ Data (55 bytes)
    Data: 34393531333620736563f6e6473207061737365642073696e636520746865206265769...
    [Length: 55]
```
```
0000  02 00 00 00 45 00 00 53  6e c3 00 00 80 11 00 00   ····E··S n·······
0010  7f 00 00 01 7f 00 00 01  69 87 d1 f9 00 3f 22 64   ········ i····?"d
0020  34 39 35 31 33 36 20 73  65 63 6f 6e 64 73 20 70   495136 s econds p
0030  61 73 73 65 64 20 73 69  6e 63 65 20 74 68 65 20   assed si nce the
0040  62 65 67 69 6e 6e 69 6e  67 20 6f 66 20 74 68 65   beginnin g of the
0050  20 6d 6f 6e 74 68 2e                                 month.
```

10. המשתמש בחר "10":

```
     2 5.490077      127.0.0.1        127.0.0.1       UDP    34 53753 → 27015 Len=2
     3 5.491181      127.0.0.1        127.0.0.1       UDP    80 27015 → 53753 Len=48
```
```
> Frame 2: 34 bytes on wire (272 bits), 34 bytes captured (272 bits) on interface \Device\NPF_Loopback, id 0
> Null/Loopback
> Internet Protocol Version 4, Src: 127.0.0.1, Dst: 127.0.0.1
> User Datagram Protocol, Src Port: 53753, Dst Port: 27015
∨ Data (2 bytes)
    Data: 000a
    [Length: 2]
```
```
0000  02 00 00 00 45 00 00 1e  6e c4 00 00 80 11 00 00   ····E··· n·······
0010  7f 00 00 01 7f 00 00 01  d1 f9 69 87 00 0a c6 4c   ········ ··i····L
0020  00 0a                                              ··
```

התשובה החזרה כמתואר בפרוטוקול:

```
     2 5.490077      127.0.0.1        127.0.0.1       UDP    34 53753 → 27015 Len=2
     3 5.491181      127.0.0.1        127.0.0.1       UDP    80 27015 → 53753 Len=48
```
```
> Frame 3: 80 bytes on wire (640 bits), 80 bytes captured (640 bits) on interface \Device\NPF_Loopback, id 0
> Null/Loopback
> Internet Protocol Version 4, Src: 127.0.0.1, Dst: 127.0.0.1
> User Datagram Protocol, Src Port: 27015, Dst Port: 53753
∨ Data (48 bytes)
    Data: 3134207765656b73207061737365642073696e6365207468652062656769696e6720...
    [Length: 48]
```
```
0000  02 00 00 00 45 00 00 4c  6e c5 00 00 80 11 00 00   ····E··L n·······
0010  7f 00 00 01 7f 00 00 01  69 87 d1 f9 00 38 30 82   ········ i····80·
0020  31 34 20 77 65 65 6b 73  20 70 61 73 73 65 64 20   14 weeks  passed
0030  73 69 6e 63 65 20 74 68  65 20 62 65 67 69 6e 6e   since th e beginn
0040  69 6e 67 20 6f 66 20 74  68 65 20 79 65 61 72 2e   ing of t he year.
```

11. המשתמש בחר "11":

```
     1 0.000000      127.0.0.1        127.0.0.1       UDP    34 53753 → 27015 Len=2
     2 0.001243      127.0.0.1        127.0.0.1       UDP    46 27015 → 53753 Len=14
```
```
> Frame 1: 34 bytes on wire (272 bits), 34 bytes captured (272 bits) on interface \Device\NPF_Loopback, id 0
> Null/Loopback
> Internet Protocol Version 4, Src: 127.0.0.1, Dst: 127.0.0.1
> User Datagram Protocol, Src Port: 53753, Dst Port: 27015
∨ Data (2 bytes)
    Data: 000b
    [Length: 2]
```
```
0000  02 00 00 00 45 00 00 1e  6e c6 00 00 80 11 00 00   ····E··· n·······
0010  7f 00 00 01 7f 00 00 01  d1 f9 69 87 00 0a c6 4b   ········ ··i····K
0020  00 0b                                              ··
```

התשובה החזרה כמתואר בפרוטוקול:

```
     1 0.000000      127.0.0.1        127.0.0.1       UDP    34 53753 → 27015 Len=2
     2 0.001243      127.0.0.1        127.0.0.1       UDP    46 27015 → 53753 Len=14
```
```
> Frame 2: 46 bytes on wire (368 bits), 46 bytes captured (368 bits) on interface \Device\NPF_Loopback, id 0
> Null/Loopback
> Internet Protocol Version 4, Src: 127.0.0.1, Dst: 127.0.0.1
> User Datagram Protocol, Src Port: 27015, Dst Port: 53753
∨ Data (14 bytes)
    Data: 49742773206461796c6967687421
    [Length: 14]
```
```
0000  02 00 00 00 45 00 00 2a  6e c7 00 00 80 11 00 00   ····E··* n·······
0010  7f 00 00 01 7f 00 00 01  69 87 d1 f9 00 16 8b 86   ········ i·······
0020  49 74 27 73 20 64 61 79  6c 69 67 68 74 21         It's day light!
```

12. המשתמש בחר "12" (ונניח שבחר "1" עבור השעה בTokyo, Japan):
התשובה שהשרת החזיר על בסיס בחירת העיר טוקיו ביפן:

```
No.        Time        Source              Destination        Protocol   Length  Info
    1 0.000000    127.0.0.1           127.0.0.1          UDP          34 53753 → 27015 Len=2
    2 0.001056    127.0.0.1           127.0.0.1          UDP          69 27015 → 53753 Len=37
```

> Frame 2: 69 bytes on wire (552 bits), 69 bytes captured (552 bits) on interface \Device\NPF_Loopback, id 0
> Null/Loopback
> Internet Protocol Version 4, Src: 127.0.0.1, Dst: 127.0.0.1
> User Datagram Protocol, Src Port: 27015, Dst Port: 53753
∨ Data (37 bytes)
    Data: 5468652074696d6520696e20546f6b796f2c204a6170616e2069733a2032333a33353a33...
    [Length: 37]

```
0000   02 00 00 00 45 00 00 41   6e c9 00 00 80 11 00 00    ····E··A  n·······
0010   7f 00 00 01 7f 00 00 01   69 87 d1 f9 00 2d fc 78    ········  i····-·x
0020   54 68 65 20 74 69 6d 65   20 69 6e 20 54 6f 6b 79    The time   in Toky
0030   6f 2c 20 4a 61 70 61 6e   20 69 73 3a 20 32 33 3a    o, Japan   is: 23:
0040   33 35 3a 33 39                                       35:39
```

13. המשתמש בחר "13" (הפעיל את המדידה):

```
    1 0.000000    127.0.0.1           127.0.0.1          UDP          34 53753 → 27015 Len=2
    2 0.001097    127.0.0.1           127.0.0.1          UDP          57 27015 → 53753 Len=25
```

> Frame 1: 34 bytes on wire (272 bits), 34 bytes captured (272 bits) on interface \Device\NPF_Loopback, id 0
> Null/Loopback
> Internet Protocol Version 4, Src: 127.0.0.1, Dst: 127.0.0.1
> User Datagram Protocol, Src Port: 53753, Dst Port: 27015
∨ Data (2 bytes)
    Data: 000d
    [Length: 2]

```
0000   02 00 00 00 45 00 00 1e   6e ca 00 00 80 11 00 00    ····E··· n·······
0010   7f 00 00 01 7f 00 00 01   d1 f9 69 87 00 0a c6 49    ········ ··i····I
0020   00 0d                                                ··
```

התשובה שחזרה כמתואר בפרוטוקול:

```
No.        Time        Source              Destination        Protocol   Length  Info
    1 0.000000    127.0.0.1           127.0.0.1          UDP          34 53753 → 27015 Len=2
    2 0.001097    127.0.0.1           127.0.0.1          UDP          57 27015 → 53753 Len=25
```

> Frame 2: 57 bytes on wire (456 bits), 57 bytes captured (456 bits) on interface \Device\NPF_Loopback, id 0
> Null/Loopback
> Internet Protocol Version 4, Src: 127.0.0.1, Dst: 127.0.0.1
> User Datagram Protocol, Src Port: 27015, Dst Port: 53753
∨ Data (25 bytes)
    Data: 4d65617375726520746966d65206c6170207374617274656421
    [Length: 25]

```
0000   02 00 00 00 45 00 00 35   6e cb 00 00 80 11 00 00    ····E··5 n·······
0010   7f 00 00 01 7f 00 00 01   69 87 d1 f9 00 21 4b 64    ········ i····!Kd
0020   4d 65 61 73 75 72 65 20   74 69 6d 65 20 6c 61 70    Measure  time lap
0030   20 73 74 61 72 74 65 64   21                          started !
```

14. המשתמש בחר "13" בשנית (עצר את המדידה):

```
    1 0.000000    127.0.0.1           127.0.0.1          UDP          34 53753 → 27015 Len=2
    2 0.000994    127.0.0.1           127.0.0.1          UDP         102 27015 → 53753 Len=70
```

> Frame 1: 34 bytes on wire (272 bits), 34 bytes captured (272 bits) on interface \Device\NPF_Loopback, id 0
> Null/Loopback
> Internet Protocol Version 4, Src: 127.0.0.1, Dst: 127.0.0.1
> User Datagram Protocol, Src Port: 53753, Dst Port: 27015
∨ Data (2 bytes)
    Data: 000d
    [Length: 2]

```
0000   02 00 00 00 45 00 00 1e   6e d0 00 00 80 11 00 00    ····E··· n·······
0010   7f 00 00 01 7f 00 00 01   d1 f9 69 87 00 0a c6 49    ········ ··i····I
0020   00 0d                                                ··
```

התשובה שחזרה כמתואר בפרוטוקול:

```
     1 0.000000      127.0.0.1           127.0.0.1           UDP        34 53753 → 27015 Len=2
     2 0.000994      127.0.0.1           127.0.0.1           UDP       102 27015 → 53753 Len=70
```

> Frame 2: 102 bytes on wire (816 bits), 102 bytes captured (816 bits) on interface \Device\NPF_Loopback, id 0
> Null/Loopback
> Internet Protocol Version 4, Src: 127.0.0.1, Dst: 127.0.0.1
> User Datagram Protocol, Src Port: 27015, Dst Port: 53753
∨ Data (70 bytes)
    Data: 4d656173757265207469006d65206c61702073746f702e0a5468652074696d65206c617020...
    [Length: 70]

```
0000   02 00 00 00 45 00 00 62  6e d1 00 00 80 11 00 00   ····E··b n·······
0010   7f 00 00 01 7f 00 00 01  69 87 d1 f9 00 4e c9 96   ········ i····N··
0020   4d 65 61 73 75 72 65 20  74 69 6d 65 20 6c 61 70   Measure  time lap
0030   20 73 74 6f 70 2e 0a 54  68 65 20 74 69 6d 65 20    stop.·T he time
0040   6c 61 70 20 74 68 61 74  20 68 61 73 20 62 65 65   lap that  has bee
0050   6e 20 70 61 73 74 20 69  73 3a 20 31 30 20 73 65   n past i s: 10 se
0060   63 6f 6e 64 73 2e                                  conds.
```

15. המשתמש בחר "13" בשנית אבל עברו 3 דקות או יותר מרגע תחילת המדידה:

```
     1 0.000000      127.0.0.1           127.0.0.1           UDP        34 53753 → 27015 Len=2
     2 0.001334      127.0.0.1           127.0.0.1           UDP       105 27015 → 53753 Len=73
```

> Frame 2: 105 bytes on wire (840 bits), 105 bytes captured (840 bits) on interface \Device\NPF_Loopback, id 0
> Null/Loopback
> Internet Protocol Version 4, Src: 127.0.0.1, Dst: 127.0.0.1
> User Datagram Protocol, Src Port: 27015, Dst Port: 53753
∨ Data (73 bytes)
    Data: 4d656173757265207469006d65206c61702068617665206265656e2073746f707065642062...
    [Length: 73]

```
0000   02 00 00 00 45 00 00 65  6e d5 00 00 80 11 00 00   ····E··e n·······
0010   7f 00 00 01 7f 00 00 01  69 87 d1 f9 00 51 0e f4   ········ i····Q··
0020   4d 65 61 73 75 72 65 20  74 69 6d 65 20 6c 61 70   Measure  time lap
0030   20 68 61 76 65 20 62 65  65 6e 20 73 74 6f 70 70    have be en stopp
0040   65 64 20 62 65 63 61 75  73 65 20 33 20 6d 69 6e   ed becau se 3 min
0050   75 74 65 73 20 6f 72 20  6d 6f 72 65 20 68 61 76   utes or  more hav
0060   65 20 70 61 73 73 65 64  2e                        e passed .
```