Задание 1

- 1. Мой IP-адрес 10.0.0.100
- 2. Protocol ICMP (1)

```
970 618.195502
                                   23.32.242.105 ICMP 70 Echo (ping) request id=0
23.32.242.105 ICMP 70 Echo (ping) request id=0
                       10.0.0.100
                                            23.32.242.105 ICMP 70 Echo (ping) request id=0
23.32.242.105 ICMP 70 Echo (ping) request id=0
    971 618.196740
                       10.0.0.100
    972 618.196923 10.0.0.100
                                                                   TCMD
    072 619 107106
                      10 0 0 100
                                             22 22 242 105
                                                                              70 Echo (ning) poquoct
Frame 970: 70 bytes on wire (560 bits), 70 bytes captured (560 bits) on interface \Device\NPF_{54BAD0.
▶ Ethernet II, Src: ac:7d:eb:a7:7d:3e (ac:7d:eb:a7:7d:3e), Dst: 00:d1:e6:e6:e6:e6 (00:d1:e6:e6:e6:e6)
Internet Protocol Version 4, Src: 10.0.0.100, Dst: 23.32.242.105
     0100 .... = Version: 4
     .... 0101 = Header Length: 20 bytes (5)
  Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
     Total Length: 56
     Identification: 0x2b95 (11157)
  ▷ Flags: 0x00
     Fragment Offset: 0
     Time to Live: 255
    Protocol: ICMP (1)
     Header Checksum: 0x7c42 [validation disabled]
     [Header checksum status: Unverified]
```

- 3. Длина заголовка -20 байт, total length =56 байт, значит, полезная нагрузка =56-20=36 байт
- 4. a. Изменяются поля Identification, TTL и Header Checksum.
 - b. Все остальные поля, которые не перечислены в пункте выше, не меняются. Неизменными должны оставаться поля Version, Total Length, Header Length, Protocol. Поля Identification и Header Checksum должны меняться.
 - с. Значение Identification с каждым последующим запросом увеличивается на 1.

```
970 618.195502 10.0.0.100 23.32.242.105 ICMP 70 Echo (ping) request id=0x0001, seq=82/20992, ttl=255
     971 618.196740
                                                                                         70 Echo (ping) request id=0x0001, seq=83/21248, ttl=1
                          10.0.0.100
                                                   23.32.242.105
                                                                           ICMP
     971 618.196740 10.0.0.100 23.32.242.105 ICMP 70 Echo (ping) request id=0x0001, seq=83/21248, ttl=1 972 618.196923 10.0.0.100 23.32.242.105 ICMP 70 Echo (ping) request id=0x0001, seq=84/21504, ttl=2
     973 618.197106 10.0.0.100 23.32.242.105 ICMP 70 Echo (ping) request id=0x0001, seq=85/21760, ttl=3
974 618.197244 10.0.0.100 23.32.242.105 ICMP 70 Echo (ping) request id=0x0001, seq=86/22016, ttl=4
                                                                                         70 Echo (ping) request id=0x0001, seq=86/22016, ttl=4
     974 618.197244 10.0.0.100 23.32.242.105 ICMP 70 Echo (ping) request id=0x0001, seq=86/22016, tt1=4 (
975 618.197356 10.0.0.100 23.32.242.105 ICMP 70 Echo (ping) request id=0x0001, seq=87/22272, tt1=5 (
976 618.197473 10.0.0.100 23.32.242.105 ICMP 70 Echo (ping) request id=0x0001, seq=88/22528, tt1=6 (
     976 618.197473 10.0.0.100 23.32.242.105
     077 610 107570 10 0 0 100
                                                                           TCMD
                                                                                                                     id-0x0001 con-00/22704 ++1-7
                                                  22 22 242 105
                                                                                        70 Echo (ning) poquoct
▶ Ethernet II, Src: ac:7d:eb:a7:7d:3e (ac:7d:eb:a7:7d:3e), Dst: 00:d1:e6:e6:e6:e6 (00:d1:e6:e6:e6:e6)
Internet Protocol Version 4, Src: 10.0.0.100, Dst: 23.32.242.105
     0100 .... = Version: 4
      .... 0101 = Header Length: 20 bytes (5)
   Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
     Total Length: 56
      Identification: 0x2b95 (11157)
   ▷ Flags: 0x00
     Fragment Offset: 0
     Time to Live: 255
     Protocol: ICMP (1)
     Header Checksum: 0x7c42 [validation disabled]
      [Header checksum status: Unverified]
      Source Address: 10.0.0.100
     Destination Address: 23.32.242.105
```

```
971 618.196740 | 10.0.0.100 | 23.32.242.105 | ICMP | 70 Echo (ping) request id=0x0001, seq=83/21248, ttl=1 (no response found!)
    972 618.196923 10.0.0.100 23.32.242.105 ICMP 70 Echo (ping) request id=0x0001, seq=84/21504, ttl=2 (no response found!)
973 618.197106 10.0.0.100 23.32.242.105 ICMP 70 Echo (ping) request id=0x0001, seq=85/21760, ttl=3 (no response found!)
                                                                             70 Echo (ping) request id=0x0001, seq=85/21760, ttl=3 (no response found!)
                                                                        70 Echo (ping) request id=0x0001, seq=86/22016, ttl=4 (no response found!)
    974 618.197244 10.0.0.100
                                          23.32.242.105
                                                                 ICMP
    975 618.197356 10.0.0.100
976 618.197473 10.0.0.100
                                          23.32.242.105
                                                                 ICMP
                                                                            70 Echo (ping) request id=0x0001, seq=87/22272, ttl=5 (no response found!)
                                    23.32.242.105
                                                            ICMP
                                                                             70 Echo (ping) request id=0x0001, seq=88/22528, ttl=6 (no response found!)
                                                                             70 Echo (ning) no
    077 610 107570 10 0 0 100
                                            22 22 242 105
                                                                 TCMD
                                                                                                 noct id-0v0001 con-00/22704 ++1-7 /no nocenonco found!)
  Ethernet II, Src: ac:7d:eb:a7:7d:3e (ac:7d:eb:a7:7d:3e), Dst: 00:d1:e6:e6:e6:e6 (00:d1:e6:e6:e6:e6)
Internet Protocol Version 4, Src: 10.0.0.100, Dst: 23.32.242.105
     0100 .... = Version: 4
     .... 0101 = Header Length: 20 bytes (5)
  Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
     Total Length: 56
     Identification: 0x2b96 (11158)
  Flags: 0x00
     Fragment Offset: 0
  Time to Live: 1
     Protocol: ICMP (1)
    Header Checksum: 0x7a42 [validation disabled]
     [Header checksum status: Unverified]
     Source Address: 10.0.0.100
    Destination Address: 23.32.242.105
▶ Internet Control Message Protocol
```

- 5. Identification: 0x2b95(11157), TTL: 255
- 6. Нет, не остаются неизменными.
- 7. Identification: 0x361b (13851), TTL: 64

```
Identification: 0x361b (13851)
Flags: 0x00
...0 0000 0000 0000 = Fragment Offset: 0
Time to Live: 64
```

- 8. а. Да, было создано 3 фрагмента.
 - b. Изменяются поля Header Checksum, Total Length, Fragment Offset, Flags