Задание 1

а)

```
[alexandrakuzmina@MacBook-Pro-Alexandra ~ % nslookup aabi.info
Server:         10.1.0.1
Address:        10.1.0.1#53

Non-authoritative answer:
Name:   aabi.info
Address: 101.231.81.172
```
сервер из Азии

б)

```
[alexandrakuzmina@MacBook-Pro-Alexandra ~ % nslookup -type=soa www.helsinki.fi
Server:         10.1.0.1
Address:        10.1.0.1#53

Non-authoritative answer:
www.helsinki.fi canonical name = adc-vip3.it.helsinki.fi.

Authoritative answers can be found from:
it.helsinki.fi
        origin = serifos.helsinki.fi
        mail addr = hostmaster.helsinki.fi
        serial = 2022031814
        refresh = 3600
        retry = 900
        expire = 3600000
        minimum = 900

[alexandrakuzmina@MacBook-Pro-Alexandra ~ % nslookup www.helsinki.fi serifos.helsinki.fi
Server:         serifos.helsinki.fi
Address:        128.214.4.64#53

www.helsinki.fi canonical name = adc-vip3.it.helsinki.fi.
Name:   adc-vip3.it.helsinki.fi
Address: 128.214.189.90
```
путный запрос

в)

```
[alexandrakuzmina@MacBook-Pro-Alexandra ~ % nslookup yandex.com
Server:         10.1.0.1
Address:        10.1.0.1#53

Non-authoritative answer:
Name:   yandex.com
Address: 77.88.55.80
Name:   yandex.com
Address: 5.255.255.80
Name:   yandex.com
Address: 5.255.255.88
Name:   yandex.com
Address: 77.88.55.77
```
несколько серверов

```
[alexandrakuzmina@MacBook-Pro-Alexandra ~ % nslookup spbu.ru
Server:         10.1.0.1
Address:        10.1.0.1#53

Non-authoritative answer:
Name:   spbu.ru
Address: 82.202.190.112
```
наш университет .

Задание 2

а)

```
▼ Internet Protocol Version 4, Src: 192.168.0.1, Dst: 192.168.0.105
    0100 .... = Version: 4
    .... 0101 = Header Length: 20 bytes (5)
  ▶ Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
    Total Length: 80
    Identification: 0x6b3f (27455)
  ▶ Flags: 0x40, Don't fragment
    ...0 0000 0000 0000 = Fragment Offset: 0
    Time to Live: 62
    Protocol: UDP (17)
    Header Checksum: 0x4fa3 [validation disabled]
    [Header checksum status: Unverified]
    Source Address: 192.168.0.1
    Destination Address: 192.168.0.105
▼ User Datagram Protocol, Src Port: 53, Dst Port: 53295
```

б)

```
User Datagram Protocol, Src Po
      Source Port: 53140
      Destination Port: 53
      Length: 38
```

с)

```
alexandrakuzmina@MacBook-Pro-Alexandra ~ % cat /etc/resolv.conf
#
# macOS Notice
#
# This file is not consulted for DNS hostname resolution, address
# resolution, or the DNS query routing mechanism used by most
# processes on this system.
#
# To view the DNS configuration used by this system, use:
#   scutil --dns
#
# SEE ALSO
#   dns-sd(1), scutil(8)
#
# This file is automatically generated.
#
nameserver 192.168.0.1
nameserver
```

880	192.168.0.1	192.168.0.105
449	192.168.0.105	192.168.0.1
137	192.168.0.1	192.168.0.105

совпадают .

д)

```
        Additional RRs: 0
      ▼ Queries
        ▼ www.ietf.org: (type A,) class IN
              Name: www.ietf.org
              [Name Length: 12]
              [Label Count: 3]
              Type: A (Host Address) (1)
              Class: IN (0x0001)
          [Retransmitted request. Original request in: 47]
          [Retransmission: True]
0000  b0 95 75 79 18 2c 38 f9  d3 e4 2a 51 08 00 45 00
```

Ответов я тут не нашла.

е)

```
      Class: IN (0x0001)
    ▼ Answers
      ▼ www.ietf.org: type CNAME, class IN, cname www.ietf.org.cdn.cloudflare.net
            Name: www.ietf.org
            Type: CNAME (Canonical NAME for an alias) (5)
            Class: IN (0x0001)
            Time to live: 1800 (30 minutes)
            Data length: 33
            CNAME: www.ietf.org.cdn.cloudflare.net
      ▼ www.ietf.org.cdn.cloudflare.net: type A, class IN, addr 104.16.44.99
            Name: www.ietf.org.cdn.cloudflare.net
            Type: A (Host Address) (1)
            Class: IN (0x0001)
            Time to live: 300 (5 minutes)
            Data length: 4
            Address: 104.16.44.99
      ▼ www.ietf.org.cdn.cloudflare.net: type A, class IN, addr 104.16.45.99
            Name: www.ietf.org.cdn.cloudflare.net
            Type: A (Host Address) (1)
            Class: IN (0x0001)
            Time to live: 300 (5 minutes)
            Data length: 4
            Address: 104.16.45.99
      [Request In: 47]
      [Time: 5.458827000 seconds]
```

вот оно!

ж)

```
104.16.44.99
104.16.44.99
104.16.44.99
```

соответствует.

з) *Нет, но отправляет запрос analytics.ietf.org*

Задание 3

а)

```
User Datagram Protocol, Src P...
  Source Port: 55052
  Destination Port: (53)
  Length: 33
```

```
      Destination Address: 192.168.0.105
    ▼ User Datagram Protocol, Src Port: 53, Dst Port: 55052
        Source Port: (53)
        Destination Port: 55052
        Length: 49
        Checksum: 0xbe95 [unverified]
        [Checksum Status: Unverified]
```

б)

```
192.168.31.105
192.168.0.1
192.168.0.105
```

Совпадает

г) *Адрес отвечающего с*

в)

```
        Additional RRs: 0
      ▼ Queries
        ▼ spbu.ru: type A, class IN
              Name: spbu.ru
              [Name Length: 7]
              [Label Count: 2]
              Type: A (Host Address) (1)
              Class: IN (0x0001)
          [Response In: 7]
00  b0 95 75 79 18 2c 38 f9  d3 e4 2a 51 08 00
```

ответов нет

```
▼ Domain Name System (response)
    Transaction ID: 0x2f54
  ▶ Flags: 0x8180 Standard query response, No error
    Questions: 1
    Answer RRs: 1
    Authority RRs: 0
    Additional RRs: 0
  ▼ Queries
    ▼ spbu.ru: type A, class IN
          Name: spbu.ru
          [Name Length: 7]
          [Label Count: 2]
          Type: A (Host Address) (1)
          Class: IN (0x0001)
  ▼ Answers
    ▼ spbu.ru: type A, class IN, addr 82.202.190.112
          Name: spbu.ru
          Type: A (Host Address) (1)
          Class: IN (0x0001)
          Time to live: 1163 (19 minutes, 23 seconds)
          Data length: 4
          Address: 82.202.190.112
    [Request In: 6]
    [Time: 0.003381000 seconds]
```

Задание 4

Я несколько раз перезагружала ноутбук и пробовала
2 вчера сделать запрос, но каждый раз выскакивало:

```
[alexandrakuzmina@MacBook-Pro-Alexandra ~ % nslookup -type=NS spbu.ru
;; connection timed out; no servers could be reached
```

Задание 5

а)
```
192.168.0.105
195.70.196.210
192.168.0.105
```
Принадлежит ns2.ru.ru

б)
```
.... .... ...0 .... = Non-authenticated data
Questions: 1
Answer RRs: 0
Authority RRs: 0
Additional RRs: 0
▼ Queries
  ▼ www.spbu.ru: type A, class IN
      Name: www.spbu.ru
      [Name Length: 11]
      [Label Count: 3]
      Type: A (Host Address) (1)
      Class: IN (0x0001)
[Response In: 254]
```
Спрашивается адрес, ответа нет

в)
```
    Class: IN (0x0001)
▼ Answers
  ▼ www.spbu.ru: type CNAME, class IN, cname spbu.ru
      Name: www.spbu.ru
      Type: CNAME (Canonical NAME for an alias) (5)
      Class: IN (0x0001)
      Time to Live: 3600 (1 hour)
      Data length: 2
      CNAME: spbu.ru
  ▼ spbu.ru: type A, class IN, addr 82.202.190.112
      Name: spbu.ru
      Type: A (Host Address) (1)
      Class: IN (0x0001)
      Time to Live: 3600 (1 hour)
      Data length: 4
      Address: 82.202.190.112
▶ Authoritative nameservers
▶ Additional records
[Request In: 253]
[Time: 0.023650000 seconds]
```
Ответа 2, но название еще другое нашел

Задание 6

1. Это протокол запросов и ответов, широко используемый
для запросов к БД, где хранится зарегистрированные
пользователи и т.д.

2. Использовала la whois


```
128.214.189.90 - Geo Information
IP Address        128.214.189.90
Host              adc-vip1.it.helsinki.fi
Location          FI, Finland
City              Helsinki, 13 00100
Organization      University of Helsinki
ISP               CSC - Tieteen tietotekniikan keskus Oy
AS Number         AS1741 Tieteen tietoteknikan keskus Oy
Latitude          60°1756" North
Longitude         24°9342" East
Distance          1948.05 km (1210.46 miles)
```

```
26.126.233.43 - Geo Information
IP Address        26.126.233.43
Host              26.126.233.43
Location          US, United States
City
Organization      DoD Network Information Center
ISP               DoD Network Information Center
Latitude          37°7518" North
Longitude         97°8228" West
Distance          9076.05 km (5763.87 miles)
```
этот IP
я сгенерировала
случайно

3.
```
alexandrakuzmina@MacBook-Pro-Alexandra ~ % nslookup -type=soa www.helsinki.fi
Server:         10.1.0.1
Address:        10.1.0.1#53

Non-authoritative answer:
www.helsinki.fi canonical name = adc-vip3.it.helsinki.fi.

Authoritative answers can be found from:
it.helsinki.fi
        origin = serifos.helsinki.fi
        mail addr = hostmaster.helsinki.fi
        serial = 2022031814
        refresh = 3600
        retry = 900
        expire = 3600000
        minimum = 900
```