

Курбатов Ярослав, РПО МКН

Программирование

Ruby MRI ~> 3.0.0

Запуск:

Клиент: ruby task_a/main.rb client <file-path>

Сервер: ruby task_a/main.rb server

Задание А

```
viralpraxis@primary:~/Documents/spbu/2023-spring/networks/spbu-masters-compnet/homeworks/08/task_a$ ls
data.json  main.rb  ykproto
viralpraxis@primary:~/Documents/spbu/2023-spring/networks/spbu-masters-compnet/homeworks/08/task_a$ ruby main.rb client data.json
sent [123, 10, 32, 32, 34, 105, 116, 101, 109, 34, 58, 32, 123, 10, 32]
#<struct YKProto::Client::Packet header=#<struct YKProto::Client::PacketHeader state=0, type=0>, message=[123, 10, 32, 32, 34, 105, 116, 101, 109, 34, 58, 32, 123, 10, 32]>
sent [32, 32, 32, 34, 102, 111, 111, 34, 58, 32, 49, 44, 10, 32, 32]
#<struct YKProto::Client::Packet header=#<struct YKProto::Client::PacketHeader state=1, type=0>, message=[32, 32, 32, 34, 102, 111, 111, 34, 58, 32, 49, 44, 10, 32, 32]>
sent [32, 32, 34, 98, 97, 114, 34, 58, 32, 110, 117, 108, 108, 10, 32]
sent [32, 32, 34, 98, 97, 114, 34, 58, 32, 110, 117, 108, 108, 10, 32]
#<struct YKProto::Client::Packet header=#<struct YKProto::Client::PacketHeader state=0, type=0>, message=[32, 32, 34, 98, 97, 114, 34, 58, 32, 110, 117, 108, 108, 10, 32]>
sent [32, 125, 44, 10, 32, 32, 34, 115, 116, 114, 105, 110, 103, 34, 58]
#<struct YKProto::Client::Packet header=#<struct YKProto::Client::PacketHeader state=1, type=0>, message=[32, 125, 44, 10, 32, 32, 34, 115, 116, 114, 105, 110, 103, 34, 58]>
sent [32, 34, 102, 111, 111, 98, 97, 114, 34, 10, 125]
#<struct YKProto::Client::Packet header=#<struct YKProto::Client::PacketHeader state=0, type=0>, message=[32, 34, 102, 111, 111, 98, 97, 114, 34, 10, 125]>
viralpraxis@primary:~/Documents/spbu/2023-spring/networks/spbu-masters-compnet/homeworks/08/task_a$
```

```
viralpraxis@primary:~/Documents/spbu/2023-spring/networks/spbu-masters-compnet/homeworks/08/task_a$ ruby main.rb server
Server: ready to receive
{
  "item": {
    "foo": 1,
    "bar": null
  },
  "string": "foobar"
}
viralpraxis@primary:~/Documents/spbu/2023-spring/networks/spbu-masters-compnet/homeworks/08/task_a$
```

Задание Б

Клиент: `ruby task_b/main.rb client <file-path>`

Сервер: `ruby task_b/main.rb server <file-path>`

```
viralpraxis@primary: ~/Documents/spbu/2023-spring/networks/spbu-masters-compnet/homeworks/08/task_b$ ruby main.rb client data.json
sent [123, 10, 32, 32, 34, 105, 116, 101, 109, 34, 58, 32, 123, 10, 32]
sent [123, 10, 32, 32, 34, 105, 116, 101, 109, 34, 58, 32, 123, 10, 32]
sent [123, 10, 32, 32, 34, 105, 116, 101, 109, 34, 58, 32, 123, 10, 32]
sent [123, 10, 32, 32, 34, 105, 116, 101, 109, 34, 58, 32, 123, 10, 32]
sent [123, 10, 32, 32, 34, 105, 116, 101, 109, 34, 58, 32, 123, 10, 32]
#<struct VKProto::Client::Packet header=#<struct VKProto::Client::PacketHeader state=0, type=0>, message=[123, 10, 32, 32, 34, 105, 116, 101, 109, 34, 58, 32, 123,
sent [32, 32, 32, 34, 102, 111, 111, 34, 58, 32, 49, 44, 10, 32, 32]
#<struct VKProto::Client::Packet header=#<struct VKProto::Client::PacketHeader state=0, type=1>, message=[123, 10, 32, 32, 34, 105, 116, 101, 109, 34, 58, 32, 123,
34, 58, 32, 49, 44, 10, 32, 32, 32, 32, 34, 98, 97, 114, 34, 58, 32, 110, 117, 108, 108, 10, 32, 32, 125, 44, 10, 32, 32, 34, 115, 116, 114, 105, 110, 103, 34, 58,
10, 125]>
Received message {
  "item": {
    "foo": 1,
    "bar": null
  },
  "string": "foobar"
}
sent [32, 32, 34, 98, 97, 114, 34, 58, 32, 110, 117, 108, 108, 10, 32]
#<struct VKProto::Client::Packet header=#<struct VKProto::Client::PacketHeader state=0, type=1>, message=[32, 32, 34, 98, 97, 114, 34, 58, 32, 110, 117, 108, 108,
sent [32, 125, 44, 10, 32, 32, 34, 115, 116, 114, 105, 110, 103, 34, 58]
#<struct VKProto::Client::Packet header=#<struct VKProto::Client::PacketHeader state=1, type=0>, message=[32, 125, 44, 10, 32, 32, 34, 115, 116, 114, 105, 110, 103
sent [32, 34, 102, 111, 111, 98, 97, 114, 34, 10, 125]
#<struct VKProto::Client::Packet header=#<struct VKProto::Client::PacketHeader state=0, type=0>, message=[32, 34, 102, 111, 111, 98, 97, 114, 34, 10, 125]>
viralpraxis@primary: ~/Documents/spbu/2023-spring/networks/spbu-masters-compnet/homeworks/08/task_b$
```

```
viralpraxis@primary: ~/Documents/spbu/2023-spring/networks/spbu-masters-compnet/homeworks/08/task_b$ ruby main.rb server data.json
Server: ready to receive
{
  "item": {
    "foo": 1,
    "bar": null
  },
  "string": "foobar"
}
viralpraxis@primary: ~/Documents/spbu/2023-spring/networks/spbu-masters-compnet/homeworks/08/task_b$
```

Задание С

Клиент: ruby task_c/main.rb client <file-path>

Сервер: ruby task_c/main.rb server <file-path>

```
viralpraxis@primary: ~/Documents/spbu/2023-spring/networks/spbu-masters-compnet/homeworks/08/task_c$ ruby main.rb client data.json
sent [123, 10, 32, 32, 34, 105, 116, 101, 109, 34, 50, 32, 123, 10, 32]
#struct VKProto::Client::PacketHeader=#struct VKProto::Client::PacketHeader state=0, type=0, checksum=[0, 17, 82, 2]>, message=[2, 123, 10, 32, 32, 34, 105, 116, 101, 109, 34, 50, 32, 123, 10, 32]>
sent [32, 32, 32, 34, 102, 111, 111, 34, 58, 32, 49, 44, 10, 32, 32]
sent [32, 32, 32, 34, 102, 111, 111, 34, 58, 32, 49, 44, 10, 32, 32]
sent [32, 32, 32, 34, 102, 111, 111, 34, 58, 32, 49, 44, 10, 32, 32]
sent [32, 32, 32, 34, 102, 111, 111, 34, 58, 32, 49, 44, 10, 32, 32]
#struct VKProto::Client::PacketHeader=#struct VKProto::Client::PacketHeader state=1, type=0, checksum=[0, 213, 137, 1]>, message=[1, 32, 32, 32, 34, 102, 111, 111, 34, 58, 32, 49, 44, 10, 32, 32]>
sent [32, 32, 34, 98, 97, 114, 34, 58, 32, 110, 117, 108, 108, 10, 32]
sent [32, 32, 34, 98, 97, 114, 34, 58, 32, 110, 117, 108, 108, 10, 32]
#struct VKProto::Client::PacketHeader=#struct VKProto::Client::PacketHeader state=0, type=0, checksum=[0, 108, 198, 1]>, message=[1, 32, 32, 34, 98, 97, 114, 34, 58, 32, 110, 117, 108, 108, 10, 32]>
sent [32, 125, 44, 10, 32, 32, 34, 115, 116, 114, 105, 110, 103, 34, 58]
#struct VKProto::Client::PacketHeader=#struct VKProto::Client::PacketHeader state=1, type=0, checksum=[0, 132, 210, 1]>, message=[1, 32, 125, 44, 10, 32, 32, 34, 115, 116, 114, 105, 110, 103, 34, 58]>
sent [32, 34, 102, 111, 111, 98, 97, 114, 34, 10, 125]
#struct VKProto::Client::PacketHeader=#struct VKProto::Client::PacketHeader state=0, type=0, checksum=[0, 116, 120, 1]>, message=[1, 32, 34, 102, 111, 111, 98, 97, 114, 34, 10, 125]>
viralpraxis@primary: ~/Documents/spbu/2023-spring/networks/spbu-masters-compnet/homeworks/08/task_c$
```

```
viralpraxis@primary: ~/Documents/spbu/2023-spring/networks/spbu-masters-compnet/homeworks/08/task_c$ ruby main.rb server
Server: ready to receive
{
  "item": {
    "foo": 1,
    "bar": null
  },
  "string": "foobar"
}
viralpraxis@primary: ~/Documents/spbu/2023-spring/networks/spbu-masters-compnet/homeworks/08/task_c$
```

Реализацию подсчета и проверки контрольной суммы см. В task_c/ykproto/checksum.rb, тесты в task_c/ykproto/checksum_test.rb