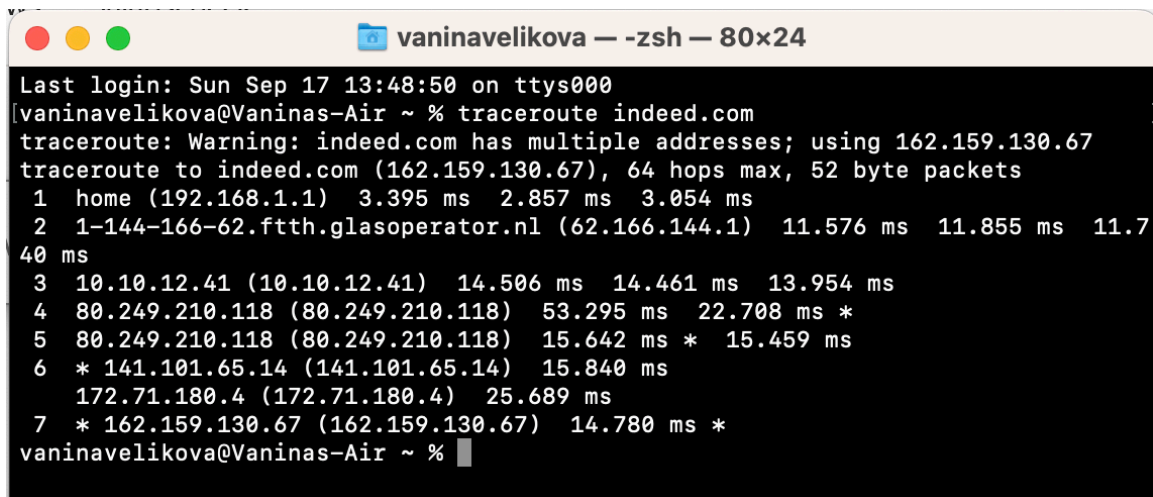


Exercise: Networks, Internet and Protocols

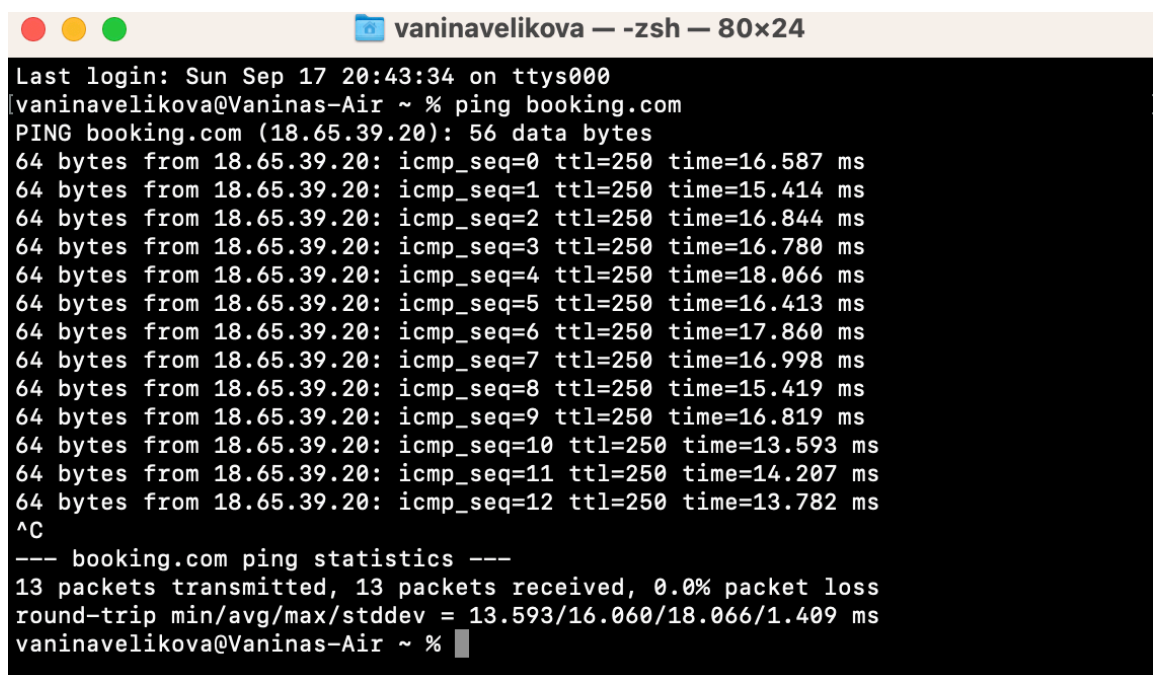
Problems for exercises and homework for the ["Software Technologies" course @ Software University](#).

1. Trace the route/connectivity to a certain IP address

- 1.1. Use the "tracert" command to test route to an external website of your choosing /Example: wikipedia.com/
- 1.2. Use the "ping" command to test connectivity to an external website of your choosing
2. Add a screenshot of the result here:



```
vaninavelikova — -zsh — 80x24
Last login: Sun Sep 17 13:48:50 on ttys000
vaninavelikova@Vaninas-Air ~ % traceroute indeed.com
traceroute: Warning: indeed.com has multiple addresses; using 162.159.130.67
traceroute to indeed.com (162.159.130.67), 64 hops max, 52 byte packets
 1  home (192.168.1.1)  3.395 ms  2.857 ms  3.054 ms
 2  1-144-166-62.ftth.glasoperator.nl (62.166.144.1)  11.576 ms  11.855 ms  11.740 ms
 3  10.10.12.41 (10.10.12.41)  14.506 ms  14.461 ms  13.954 ms
 4  80.249.210.118 (80.249.210.118)  53.295 ms  22.708 ms  *
 5  80.249.210.118 (80.249.210.118)  15.642 ms  *  15.459 ms
 6  * 141.101.65.14 (141.101.65.14)  15.840 ms
    172.71.180.4 (172.71.180.4)  25.689 ms
 7  * 162.159.130.67 (162.159.130.67)  14.780 ms  *
vaninavelikova@Vaninas-Air ~ %
```



```
vaninavelikova — -zsh — 80x24
Last login: Sun Sep 17 20:43:34 on ttys000
vaninavelikova@Vaninas-Air ~ % ping booking.com
PING booking.com (18.65.39.20): 56 data bytes
64 bytes from 18.65.39.20: icmp_seq=0 ttl=250 time=16.587 ms
64 bytes from 18.65.39.20: icmp_seq=1 ttl=250 time=15.414 ms
64 bytes from 18.65.39.20: icmp_seq=2 ttl=250 time=16.844 ms
64 bytes from 18.65.39.20: icmp_seq=3 ttl=250 time=16.780 ms
64 bytes from 18.65.39.20: icmp_seq=4 ttl=250 time=18.066 ms
64 bytes from 18.65.39.20: icmp_seq=5 ttl=250 time=16.413 ms
64 bytes from 18.65.39.20: icmp_seq=6 ttl=250 time=17.860 ms
64 bytes from 18.65.39.20: icmp_seq=7 ttl=250 time=16.998 ms
64 bytes from 18.65.39.20: icmp_seq=8 ttl=250 time=15.419 ms
64 bytes from 18.65.39.20: icmp_seq=9 ttl=250 time=16.819 ms
64 bytes from 18.65.39.20: icmp_seq=10 ttl=250 time=13.593 ms
64 bytes from 18.65.39.20: icmp_seq=11 ttl=250 time=14.207 ms
64 bytes from 18.65.39.20: icmp_seq=12 ttl=250 time=13.782 ms
^C
--- booking.com ping statistics ---
13 packets transmitted, 13 packets received, 0.0% packet loss
round-trip min/avg/max/stddev = 13.593/16.060/18.066/1.409 ms
vaninavelikova@Vaninas-Air ~ %
```

2. Find the IP address behind a domain name

1. Using an online DNS lookup tool, like [DNS Checker](#) or [MX Toolbox](#) find the IP address of a domain. /Example: medium.com/
2. Add a screenshot of the result here:

indeed.com

DNS Lookup



a:indeed.com

Find Problems



Type	Domain Name	IP Address	TTL
A	indeed.com	162.159.129.67 Unknown (AS13335)	60 min
A	indeed.com	162.159.130.67 Unknown (AS13335)	60 min

	Test	Result
✓	DNS Record Published	DNS Record found

Your DNS hosting provider is "NS1" [Need Bulk Dns Provider Data?](#)[dns check](#)[mx lookup](#)[dmarc lookup](#)[spf lookup](#)[dns propagation](#)Reported by [dns4.p01.nsone.net](#) on 9/17/2023 at 1:49:00 PM (UTC -5), [just for you.](#)[Transcript](#)

3. Execute HTTP GET

- Using <https://restcountries.com/> and DevTools on your browser. Execute a GET request for a country of your choosing. /Example: <https://restcountries.com/v3.1/name/deutschland/>
- Add a screenshot of the result with DevTools open here:

The screenshot shows a web browser displaying the REST Countries API response for the Netherlands. The JSON data is as follows:

```

{
  "name": "Netherlands",
  "topLevelDomain": [
    ".nl"
  ],
  "alpha2Code": "NL",
  "alpha3Code": "NLD",
  "callingCodes": [
    "31"
  ],
  "capital": "Amsterdam",
  "altSpellings": [
    "NL",
    "Holland",
    "Nederland"
  ],
  "subregion": "Western Europe",
  "region": "Europe",
  "population": 17441139,
  "latlng": [
    52.5,
    5.75
  ],
  "demonym": "Dutch",
  "area": 41850,
  "gini": 28.1,
  "timezones": [
    "UTC-04:00",
    "UTC+01:00"
  ],
  "borders": [
    "BEL",
    "DEU"
  ],
  "nativeName": "Nederland",
  "numericCode": "528"
}

```

The Chrome DevTools Network tab shows the request details for the GET request to <https://restcountries.com/v2/name/Netherlands>. The status is 200 OK, and the response is in JSON format. The request headers include Accept, Accept-Encoding, Accept-Language, Connection, Host, Sec-Ch-Ua, and Sec-Ch-Ua-Mobile.