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SOFTWARE ENGINEERING DEPARTMENT

WEB PROGRAMMING
LABORATORY WORK #2

SELF-MADE BROWSER

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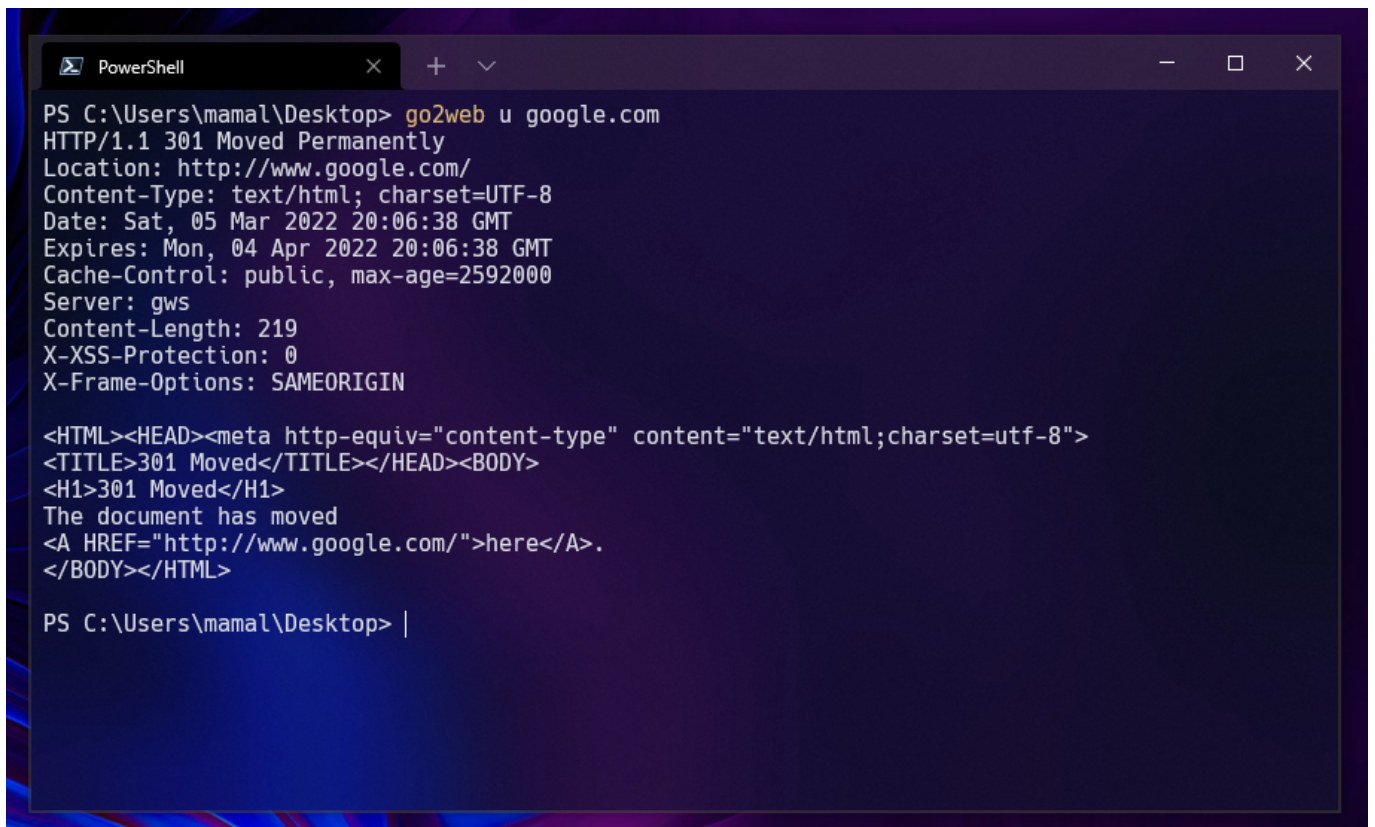
1 Task

Your task for this lab is:

- You have to write a command line program, using go2web as a starting point;
- The responses from requests should be human-readable (e.g. no HTML tags in the output);
- The program should implement the following CLI:
 - go2web -u <URL> - make an HTTP request to URL and print the response;
 - go2web -s <search-term> - search the term using your favorite search engine and print top 10 results
 - go2web -h - show help

2 Results

I developed this laboratory work using node.js. To implement the CLI I used commander.js which is a node.js module for creating command line interfaces. For making a get request to a URL I used the net module. To implement the command which searches for a term I used the serpstack api which gives me a JSON with results from google search engine.



```
PS C:\Users\mamal\Desktop> go2web u google.com
HTTP/1.1 301 Moved Permanently
Location: http://www.google.com/
Content-Type: text/html; charset=UTF-8
Date: Sat, 05 Mar 2022 20:06:38 GMT
Expires: Mon, 04 Apr 2022 20:06:38 GMT
Cache-Control: public, max-age=2592000
Server: gws
Content-Length: 219
X-XSS-Protection: 0
X-Frame-Options: SAMEORIGIN

<HTML><HEAD><meta http-equiv="content-type" content="text/html; charset=utf-8">
<TITLE>301 Moved</TITLE></HEAD><BODY>
<H1>301 Moved</H1>
The document has moved
<A HREF="http://www.google.com/">here</A>.
</BODY></HTML>

PS C:\Users\mamal\Desktop> |
```

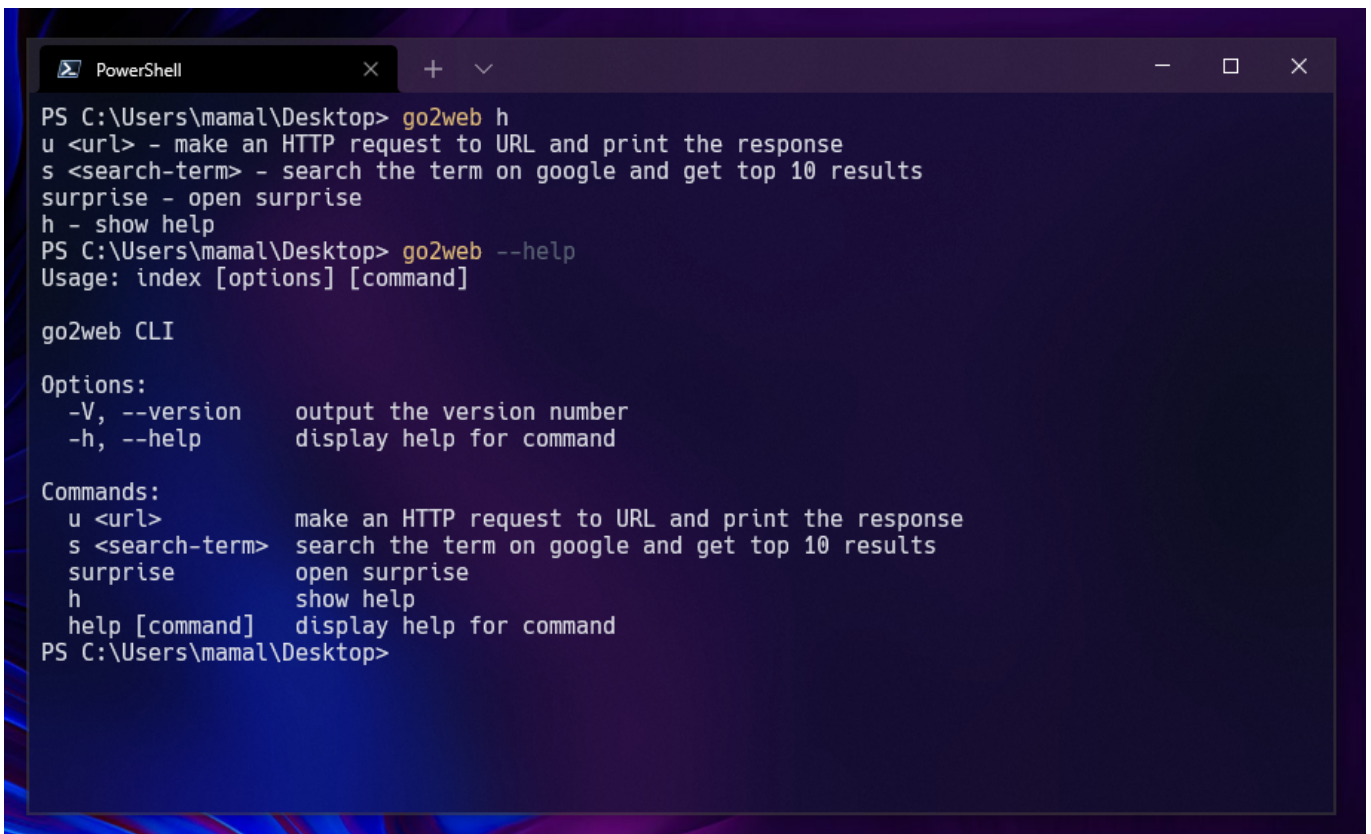
Here is an example of a GET http request to google.com. I did not use any libraries to pretty print the response body.

```
PowerShell
PS C:\Users\mamal\Desktop> go2web s reactjs
[
  'https://reactjs.org/',
  'https://reactjs.org/',
  'https://en.wikipedia.org/wiki/React_(JavaScript_library)',
  'https://github.com/facebook/react',
  'https://twitter.com/reactjs',
  'https://www.tutorialspoint.com/reactjs/reactjs_overview.htm',
  'https://www.peerbits.com/blog/reasons-to-choose-reactjs-for-your-web-development-project.ht',
  'https://stackoverflow.com/questions/tagged/reactjs'
]
PS C:\Users\mamal\Desktop> |
```

Here are some examples of the second command which searches for a term on google. The information about the searches is provided by the API, and here I gave up and I used axios module to make a GET request and get the JSON. After I got the information I choose only the links from the searches and logged them into the console. The links are also accessible using the CTRL key from the keyboard.

```
PowerShell
PS C:\Users\mamal\Desktop> go2web s pocophone
[
  'https://www.po.co/global/',
  'https://www.techradar.com/reviews/poco-f1',
  'https://www.kimovil.com/en/where-to-buy-xiaomi-pocophone-f1',
  'https://benchmarks.ul.com/hardware/phone/Xiaomi+Pocophone+F1+review',
  'https://en.wikipedia.org/wiki/Xiaomi_Pocophone_F1',
  'https://www.gsmarena.com/xiaomi_pocophone_f1-9293.php'
]
PS C:\Users\mamal\Desktop> go2web s travel
[
  'https://travel.state.gov/content/travel/en/traveladvisories/traveladvisories.html/',
  'https://travel.state.gov/content/travel/en/traveladvisories/traveladvisories.html/',
  'https://www.google.com/travel/',
  'https://www.travelandleisure.com/',
  'https://www.travelocity.com/',
  'https://www.costcotravel.com/',
  'https://www.cdc.gov/coronavirus/2019-ncov/travelers/index.html',
  'https://www.cdc.gov/coronavirus/2019-ncov/travelers/index.html'
]
PS C:\Users\mamal\Desktop>
```

Below is the command which shows the information about all the other commands, but you can access this information with `-help` option from `commander.js` module.



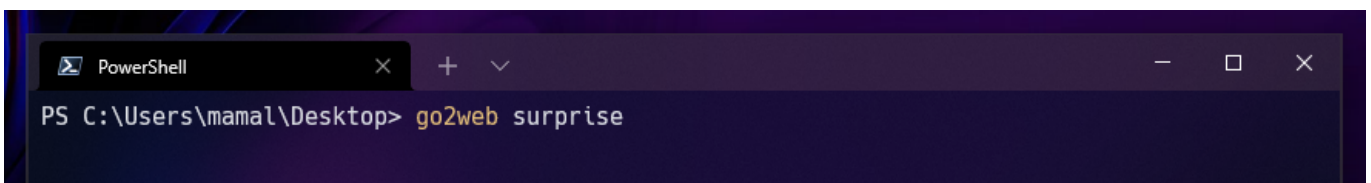
```
PS C:\Users\mamal\Desktop> go2web h
u <url> - make an HTTP request to URL and print the response
s <search-term> - search the term on google and get top 10 results
surprise - open surprise
h - show help
PS C:\Users\mamal\Desktop> go2web --help
Usage: index [options] [command]

go2web CLI

Options:
  -V, --version      output the version number
  -h, --help         display help for command

Commands:
  u <url>            make an HTTP request to URL and print the response
  s <search-term>    search the term on google and get top 10 results
  surprise           open surprise
  h                 show help
  help [command]    display help for command
PS C:\Users\mamal\Desktop>
```

And lastly, the additional command "go2web surprise" which is a surprise command. A small hint if you want to save some time and not clone my repository locally. You can access my code here https://github.com/Dunitrashuk/Lab2_PW and go to `index.js` file/function `surprise()`. And then you will discover my surprise.



```
PS C:\Users\mamal\Desktop> go2web surprise
```

3 Conclusion

After implementing this laboratory work, I learned how to make a GET http request to an URL. I learned how to create a command line interface using `commander.js` and `node.js`. Also I practised with using an API and getting the data through a GET request with `axios`. Personally I found this laboratory work challenging because I did not had much past experience making http requests or implementing some back-end and also I found little support for `net` module. In the end, this is what I came up with and I know that there is still room for growth.