OS Lab Assignment 1 Introduction

We will be going through the assignment - elaborating various tools and providing demo wherever necessary.

NOTE: use `man [tool]` whenever stuck 😉

Sorting & File Manipulation

1. sort any file in ascending order
   `sort demo.txt -o answer.txt`
2. can use redirection as well
   `sort demo.txt > answer.txt`

References

- SORT command in Linux/Unix with examples
- Input Output Redirection in Linux

String Split

1. multiple ways, we will use simple replace
2. following snippet splits based on `;`

```
IN="bla@some.com;john@home.com"
arrIN=(${IN//;/ })
echo ${arrIN[1]}
```

References

- How do I split a string on a delimiter in Bash?

Traverse Directories

1. `find` command can be used

`find / -mindepth 1 -maxdepth 1 -type d`

References

- Shell script to traverse directories

Curl, Environment Variables & Networking

1. Environment Variables are variables set into the OS, Microservice, etc. but NOT into the program.
    a. check current shell env vars `printenv`
    b. setting and unsetting in the script is trivial
    c. to use for a single command, `ENV_VAR=VALUE [COMMAND]`
2. REST API has only a few methods. Most important ones are:
    a. GET is used to request data from a specified resource
    b. POST is used to send data to a server to create/update a resource
3. headers let the client and the server pass additional information
4. `curl` is used for making network requests `curl example.com`
    a. `curl` can do a lot more. for instance, `curl -I thealphadollar.me` outputs the response headers.
    b. Example of send POST data from file in a key K. `curl -d "K=`cat [JSON_FILE_PATH]`" -X POST [SERVER IP / ADDRESS]`
5. `jq` is used to manipulate JSON data in terminal
    a. read json `cat correct.json | jq .`
    b. read value `cat correct.json | jq .[].friends`

References

- An Introduction to Environment Variables and How to Use Them
- What is a REST API?
- Header MDN Docs
- How to Parse JSON Files on the Linux Command Line with jq

Random String Generation

1. `echo $RANDOM | md5 | head -c 20; echo;`

References

- How to Generate Random String in Bash

RegEx Matching

1. regex for short, is a shorthand representation for a set [of strings]
2. Example: `[[ sed-4.2.2.tar.bz2 =~ tar.bz2$ ]] && echo matched`
    a. What do you think gets printed?
    b. Oh! What's the `&&` operator?

References

- Everything you need to know about Regular Expressions
- How can I match a string with a regex in Bash?