

Assignment 1

Due Date: February 12, 2025 at 7:30 PM

Overview

This assignment will be worth **3.5%** of your total grade. The goal in part 1 & part 3 is to demonstrate you knowledge of File I/O and JSON to parse text files. Part 2 is designed to utilize the asynchronous properties of JavaScript.

Important: If you are on a Windows machine, do not take into account `/r` for anything, or you will lose 10%. If you use the ES6 import statement **instead** of the CommonJS require for node modules taught during lecture, you will lose 10%.

Specifications

For this assignment, you will need to understand File I/O and how to use an asynchronous function in JavaScript.

Part 1: File I/O & JSON

Create a file called `toJSON` that reads a `.txt` file from the command line. This file should always contain **at least** three lines:

- line 1: is a first name (1 word)
- line 2: is a last name (1 word)
- line 3: is a location (1 word)
- lines 4-n: can be string(s) (n number of word(s))

Your job is to take this data and return a clean JSON object in the following format: `{fname: line1_fname, lname: line2_lname, location: line_3, other: lines_4-lines_n}` The only edge cases that need to be considered are:

- If there are not at least three lines in the file, print an error message and do no further processing on the file
- Only one arg is read in through the command line which is the filename. If more than one arg is provided, print an error message and do no further processing on the file
- If there are only three lines, “other” will contain “N/A”

- Please be sure proper spacing is maintained. For example, If the sentences “Teaches CS at TU” and “Loves long walks in the park” and combined, it should read as “Teaches CS at TU Loves long walks in the park” not “Teaches CS at TULoves long walks in the park”

```
csmirani:Desktop jirani$ node toJSON.js testfile.txt
{
  fname: 'Jal',
  lname: 'Irani',
  location: 'Towson',
  other: 'Teaches CS at TU Loves walks in the park'
}
```

```
Jal
Irani
Towson
Teaches CS at TU
Loves walks in the park
```

Part 2: to Array

Create a file called toArray.js that reads n numbers from the command line, adds only the even numbers to an array, and returns the array in the order that they were entered. You must use a forEach loop for this file. The output will contain the size of the array and the array itself.

```
jirani@csmbirani Desktop % node toArray.js 1 2 3 4 5 6 7
The array contains: 2,4,6
The length of the array is: 3
jirani@csmbirani Desktop % node toArray.js 3 5 7 9
The array contains:
The length of the array is: 0
jirani@csmbirani Desktop % node toArray.js
The array contains:
The length of the array is: 0
```

Part 3: String Count

Create a file called stringCount.js that reads a textfile from the command line. You must return the total number of occurrences that the following words in the textfile (case should be ignored):

- towson

- cis
- web
- development

Please note: this should only count if one of the four words is a stand-alone word, not if it is contained within another word. For example, if a textfile contained the string “Welcome to TowsonCIS”, the value returned would be 0. But if the textfile contained the string “Welcome to Towson CIS” the value returned would be 2.

```
jirani@csmbirani Desktop % node stringCount.js testfile.txt
The total number of occurrences is: 2
```

Submission

Please submit the following on Blackboard:

- toJSON.js
- toArray.js
- stringCount.js