

Assignment 1

You are given a java program that reads from a local file or from a URL a file containing family trees. It is modification of a CS 2401 binary tree assignment for a Spring 2019 course I taught with Dr. Ceberio.

The BNF for the language is as follows:

```
* <input> ::= <section>*
* <section> ::= '[' <member>* ']'
* <member> ::= STRING '-' STRING ',' INT ',' STRING
```

```
INT ::= [0-9] +
```

STRING is a string of characters enclosed in double quotes.

A double quote character can be included in the string by escaping it with a \, like "This string contains \"quotes\"".

The java program parses the input. For each section, it builds a family tree. If a node is missing (like there is a grandmother, but no mother nor father) a node with a question mark is created. The program then prints the family tree. When the program has syntax errors, an error message for the first detected error is generated and the rest of the section is skipped.

Create a PHP program that produces exactly the same output as the provided java program. The Binary Tree code was taken from the CS 2401 course. We updated it as needed, but it does have extra fields and/or methods that we don't use. You don't have to code those in your PHP program. You need to compare the java program output to the "page source" of the PHP program, not to what is displayed by the browser. In your PHP program, use the PHP constant PHP_EOL for new lines. You can test your program by running it on your computer and comparing its output to the output of the Java program.

Each student in the course has a folder on our course web server. You can access and modify the contents of your folder through an SFTP application like FileZilla or WinSCP or many others. In FileZilla, I use File>Site Manager and select the options as follows. Protocol: FTP, Host: css-rvlab01.utep.edu, Port: leave blank, Encryption: Require explicit FTP over TLS, Logon Type: Ask for password. Your folder will be under the cs5339

folder, named after your UTEP username and can be accessed with your UTEP username and password. The files you put in your folder are in general accessible to the public with browsers, although I believe you need to access it from the UTEP network, either explicitly or through VPN. However, if there is an `index.html` file in your main folder, a user would need to know the folder names or file names to be able to access them. Create an assignment folder with a name difficult to guess under your main folder on the course web server. The folders you create under your main folder will not be visible if there is an `index.html` file in your main folder. Put a copy of your PHP program file(s) in that assignment folder. The files will be accessible via browsers at URL:

`cssrvlab01.utep.edu/Classes/cs5339/<username>/<randomname>/<yourprogram.php>`

This will make it accessible to everyone, but invisible to those not knowing the random name.

Last year, the CS server ran PHP version 8.0.8. I haven't checked this year. The AMPPS on my computer runs PHP version 7.1.8. I don't think the version difference will cause problems, but you should definitely test your program on the course server. You should test your program on localhost first. Some of you may encounter errors on the CS server that were not occurring on your localhost. The CS server doesn't give you any clue about what the error is. In general, this is a good practice in terms of security for a publicly accessed server, we want malicious actors to learn the least about our server's configuration. If you are not at UTEP, you will need to VPN to UTEP to access the course server. We plan to create a web site where you can test your program against mine. Meanwhile, again, you can test by comparing the output of your program with the output of the provided Java program.

Turn in:

Put a copy of your PHP program file(s) in your assignment folder on the course server, as described above.

Write a report that contains the following:

1. The URL of your PHP program.
2. How long did you spend to do this assignment?
3. What problems (if any) did you encounter in this assignment, and if yes, how did you solve the problems?
4. What did you learn in this assignment?

Submit your report through blackboard.

Late Assignments: The penalty for a late assignment is 1% per hour for up to 10% per day, for up to 4 days late. If you are not able to submit within 4 days, contact me to explain your situation. We may be able to agree on extra time for your late assignment.

Due date: TBA