CP367: Assignment 4 – Winter 2024

Due on Mar 11, 2024 (Before 11:59 PM)

This is an **individual** assignment, and we will try to practice bash scripting.

General Instructions:

- For this assignment, your script must run **without errors.**
- If your code does not run, **then you will score zero**. Therefore, ensure you have removed all syntax errors from your code.
- **Gradescope** platform would be used to upload the assignments for grading. The link to the Gradescope assignment is available on Myls course page. Drag and drop your code file(s) for submission into Gradescope. **Make sure your file name is as suggested in the assignment; using a different name may score zero.**
- Please note that the submitted code will be checked for plagiarism. Submitting these .sh files would confirm that you have not received unauthorized assistance in preparing the assignment. You also confirm that you are aware of course policies for submitted work.
- Marks will be deducted from any questions where these requirements are not met.
- Multiple attempts will be allowed, but your last submission will be graded before the deadline. Instructors reserve the right to take off points for not following directions.

Question 1

Write a bash script (name it `text_to_array.sh`) that asks the user to pass a text file name (`input.txt`) while running the script and converts the file text into an array where each word is an entry. Use loops and conditionals to read the text file one character at a time and note that the character separates words " ".

Use the following command to run the script:

`$ sh ./text_to_array.sh input.txt`

The expected output for executing the above is:

```
Array elements:

We

will

buy

very

.

.

.

my

loves
```

The script will check:
- If no filename is provided, it prints a usage message:

  Usage: ./text_to_array.sh <filename>

- If the file does not exist, it prints an error message:

  $ sh ./text_to_array.sh input.txt

- It should print:

  Error: File 'input2.txt' not found.

- if it's a space, comma, dot, or other punctuation character, do not add it to the array.

Important Note: When submitting a source code file to Gradescope, make sure to name it like:

- *text_to_array.sh*

Question 2

Write a bash script (name it `check_directory.sh`) that asks the user to pass a path of the directory and extension of the type of files (e.g. `sh`) and reports the number of regular files in the given directory of given extension types. If the extension is not passed, it will report the number of regular files of all types in the given directory.

Use the following command to run the script:

$ sh ./check_directory.sh directory_path file_extension

For example:

```
(r_40) (base) ssehra@YVXV4FG67G Assignment_4 % ls test
check_directory.sh        input.txt              text_to_array.sh
```

```
(r_40) (base) ssehra@YVXV4FG67G Assignment_4 % sh ./check_directory.sh test sh
Number of regular files in directory 'test':      2
```

```
(r_40) (base) ssehra@YVXV4FG67G Assignment_4 % sh ./check_directory.sh test
Number of regular files in directory 'test':      3
```

The script will check:
- If no path is provided, it prints a usage message:

```
(r_40) (base) ssehra@YVXV4FG67G Assignment_4 % sh ./check_directory.sh
Usage: ./check_directory.sh <directory> [extension]
```