Using Unix SED

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Assignment:

You are a web developer and have received notice that beginning next week the department's website will no longer be part of UNM, but of NMSU. All branding and naming will need to be changed to reflect this. How might you accomplish this?

Clarification Questions:
- Does case need to be maintained in the replacement? If so, to what extent?
  ANSWER: Don't worry too much about every possibility, but rather what is likely
- What must be included in "branding and naming" changes?
  ANSWER: You will need to change certain details like lobos to aggies and so on. The intent is to convert UNM's website to an NMSU branch in Albuquerque

Tested on a text file (test.txt) containing the following text:

```
"myUNM
This is a test for replacing unm different ways in a sentence. -Unm LOBO
Go Lobos!

(c) The University of New Mexico
New Mexico's Flagship University"
```

Solution:

```
grep -r . | xargs sed -i "s/unm/nmsu/g; s/UNM/NMSU/g; s/Lobos/Aggies/gi;
s/LOBO/AGGIE/g; s/The University of New Mexico/New Mexico State University/gi;
s/New Mexico's Flagship University/BE BOLD. Shape the future./gi"
```

Explanation:
- `grep` processes the text of files in a directory line by line
- The `-r` option tells grep to perform a recursive search of the files in the directory, including subfolders if they exist
- The dot (`.`) tells grep to look in the current directory which can be changed to a specific file, directory path, or an asterisk (*) to search files in the current directory non-recursively
- The pipe (`|`) tells xargs to operate on the output of the grep command
- `xargs` tells sed to use the output of grep
- The `-i` option tells sed to edit files in-place instead of printing to standard output
- The '`s`' is the substitute command which attempts to match the pattern space against the supplied regular expression
- The '`g`' flag replaces all instances of the regular expression with the desired replacement
- The '`i`' flag compares against the regular expression without sensitivity to case

Additional notes:

sed (Stream EDitor) syntax: `sed 'ADDRESSs/REGEXP/REPLACEMENT/FLAGS' filename`

A final `grep -r . | xargs sed -i "s/unm/NMSU/gi; s/lobo/Aggie/gi"` could be run following the solution to take care of any unexpected capitalization cases (e.g. "Unm"). There is a very low likelihood such cases would be intentional and should be preserved.

Since data is being overwritten, it could be a good idea to create backups of the files that remain unchanged. This can be done by using `grep -r . | xargs sed -i.bak "s/…"` the files are identifiable as `"*.bak"` which is important for deletion.

Referenced Documentation:

Sasikala. (2009, Sept 30). Unix Sed Tutorial: Find and Replace Text Inside a File Using RegEx. https://www.thegeekstuff.com/2009/09/unix-sed-tutorial-replace-text-inside-a-file-using-substitute-command/