# Assignment 3 – File I/O, Exceptions

In this assignment you will be reading files, manipulating the data, and storing the clean files back to a different file. During this process you must check for and catch errors.

You will be provided with a comma delimited file called DirtyNames.csv this file consists of thousands of names that are horribly formatted and must be cleaned up. A clean name is all lower case letters except the first letter which must be capitalized. In addition, some of the names have symbols or other invalid characters, if a name contains an invalid character it should be put in a separate file called InvalidNames.csv. Clean names should be put in CleanNames.csv.

A dirty name will consist of a name with randomly placed upper and lowercase letters. For example:

* joRdaN

A clean name should be formatted with and uppercase first letter followed by lowercase letters. However, if a name is hyphenated the name after the hyphen should also start with an upper case letter. For example:

* Jordan
* Pitt-Rivers

Invalid names are entries in the list that are not names at all or names that contain invalid symbols. For the purpose of this task a name should be considered valid if it only contains letters a-z, A-Z, or a hyphen. Any other symbols (including spaces and numbers) should put the name in the invalid name list. Examples of invalid names:

* 123-123-1234
* J@ke
* John Doe

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| **Task** | **Points** |
| Open DirtyNames.csv file | /1 |
| Create InvalidNames.csv file | /1 |
| Create CleanNames.csv File | /1 |
| Fix formatting of all valid names and save to CleanNames.csv | /1 |
| Populate InvalidNames.csv with invalid names | /1 |
| Names in InvalidNames.csv are not mutated in any way from the original entry | /1 |
| Use exceptions properly | /1 |
| Program also works with instructors’ word list | /1 |
| Use modules to compartmentalize code. | /1 |
| Functions make sense in modules (eg. Math module should only have math functions) | /1 |
| Use correct accessors for opening and reading files | /1 |
| Works with 10,000 name list | /1 |
| Works with 100,000 name list | /1 |
| Works with 10,000,000 | /1 |

# Submission

Submit a zip file named Firstname-Lastname\_Assignment-3.zip containing your project