



## Lab 5 – Modules and Packages

Part 1: Create a module.

Create a module named *stringstuff.py* and include the following functions:

```
string_length( a_string ): Return string length
make_upper_case( a_string ):Return string in upper case
make_lower_case( a_string ):Return string in lower case
make_title_case( a_string ):Return string in title case
```

ALL of these functions *call an existing function or string method*.

ALL of these functions *are only one line each*.

The purpose of this lab is for you to *create a module, not write lots of code*.

Your module should have a *DocComment* at the top of the module explaining what the module does.

Your module should have *DocComments* for each function describing what it does.

Your module should have a **main function that has code to call each function (for test, presumably)**

Your module should have an *if statement* that **determines if your main method should be called**.

Here is a sample run of your main function:

```
Original string: Mary had a little lamb
Upper case: MARY HAD A LITTLE LAMB
Lower case: mary had a little lamb
Title case: Mary Had A Little Lamb
Number of characters: 22
```

## Part 2: Use the module you just created

Create a program called *usestringstuff.py*. **Import the four functions only.**

Use the *same code as you did in your main function in the stringstuff module and an extra print()* statement showing the modules are being called from *usestringstuff*, not *stringstuff*. Something like:

```
print('Calling stringstuff from my program')
```

Your output – other than the above line - should be identical to that from page 1.

## Part 3: Create a package

Now, *create a package named packageforlab6.*

Include the module *stringstuff.py* you wrote and a module *numberstuff.py* that is **already written** in your package (feel free to examine *numberstuff.py*; you'll need to know the functions included to *use the package soon*)

In your package, *leave \_\_init\_\_.py empty* (you'll add stuff to it soon)

## Part 4: Use the package you just created

Create a program named *usepackage.py*. Code ONE import statement that allows you to use ALL the functions in both modules in the package.

Include a print() statement like the one you used in Part 2 but saying something about using your package. This will work:

```
print('Calling functions from package modules')
```

Copy the *main( ) functions* from the two modules into your program and make whatever changes (if any) to call the functions imported by the package import.

## Part 5: Change your `__init__.py` to import your functions

Comment out the *import* statement in your *usepackage.py* program from part 4.

Code an import statement in *usepackage.py* that, **together with addition(s) to `__init__.py`** will allow your existing *usepackage.py* program to run without any other changes.