Python Ecosystem Exercises

Modules

1. Create a Python file and import the `math` package. Use the package to print out a value using the factorial method.

2. Follow the same as above but this time, only import the factorial method instead of the whole package.

3. Follow the same as above but this time, place the factorial call in a function and return the value. Create a second file that will import this function. Call the function from that module and print out the results.

Variable Scope

1. Describe the scope of the variables a, b, c and d in this example:

```python
def my_function(a):
  b = a - 2
  return b

  c = 3

  if c > 2:
    d = my_function(5)

print(d)
```

1. What is the lifetime of these variables? When will they be created and destroyed?

2. Can you guess what would happen if we were to assign c a value of 1 instead?

3. Why would this be a problem? Can you think of a way to avoid it?