DATA8005 – Assignment 1 Part 1

**Due:** End of week 7 (November 4th)

**Worth:** 30%

## Overview

You have completed 2 labs on Python/pymongo and aggregate expressions in MongoDB. Part 1 of your first assignment is to complete some exercises on these areas. You will need to do a little bit of research on things like adding to a list.

You will be using the Tate dataset, which you imported as part of Lab 2.

## Instructions

**1. [9 marks]**

Create a new python script called assign1\_p1\_1.py.

Write Python script to:

* prompt the user for a name in Surname, Firstname format, e.g. Abrahams, Ivor;
* neatly display the following:
  1. the artist’s name in Firstname Surname format, e.g. Ivor Abrahams;
  2. gender;
  3. birth place;
  4. birth year;
  5. a list of movements, if any;
  6. a list of the artist’s artwork titles.

For 6 above, you **must** go to the artworks collection and make use of the *contributors* list. List the artwork if the name you entered is a contributing artist. Remember, it is possible that the name you entered might have contributed without being the artist (e.g. they were the subject of a portrait or restored the artwork). In other words, don’t accidentally list any artworks the artist was not part of creating.

**2. [12 marks]**

Create a new python script called assign1\_p1\_2.py.

Write python script to add a new movement to an artist based on user input.

The input should be like this:

Enter artist name: Abrahamson, Ivor  
 Enter movement title: Grand Tour

This would result in the following movement sub-document being added to the list of movements for Ivor Abrahamson:

{

"era" : {

"id" : 290,

"name" : "18th century"

},

"id" : 342,

"name" : "Grand Tour"

}

While it is possible to get the movement id and the era sub-document by searching the artists collection for the first occurrence of the movement, it might be better to create a new movement collection.

Create a utility script, create\_movements.py, and in it create a new collection called movements which adds all distinct movements from artists to the new movements collection.

Use the new movements collection in your assign1\_p1\_2.py script.

**3. [9 marks]**

Write MongoDB queries to run from the mongo client to answer the following questions:

* How many artists are active in London?
* Which artworks have an arm or arms raised (“arm/arms raised” is in the subjects)?
* Choose 3 potential fields (or groups of fields) to index. Explain why in one sentence and provide the mongoDB commands to create the indexes.

## Submitting

Use the e-assignment under Assessments in Blackboard to submit – you have all the way to the end of week 7 to submit. Include everything in a zip file: 2 python scripts and a text file with your queries and other notes.