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| Module | | | | |
| Title Databases 2 | Lecturer Dr. Patricia O’Byrne | | Class group TU856/3, TU857/3, TU858/3, DT844/1 | |
| **Assignment** | | | | |
| Name MongoDB | | Worth: 6% of module | | Due date/time Week 10 |
| Submission mechanism *(Only submit through mechanisms listed here – other submissions will be ignored)* | | INDIVIDUAL Brightspace submission | | Late submission penalty 10% per week for 1 week. No submissions allowed after that. |
| Description of task:  * Pick your dataset. * Develop a design for the data, and derive a collection from the design. The design should have **embedded arrays**. Use the design advice given in lectures. * Document your design in a Word document and describe what validation you want to implement. * Create and populate a database and collection on your Docker installation of MongoDB, using Python to convert the data, to show them working, introducing validation where appropriate.   Write MongoDB queries to query your collections. Your queries should be run from a Python program and show:   * Selection of all documents in a collection, in JSON format. * Selection of embedded array data, based on selection criteria. * Selection showing Projection * Selection with sorted output * Selection using Aggregation pipelines (e.g. $match)   Manipulating data:   * Write insert, update and delete statements for your collection (Look this up yourselves).   **Each student** should design their own schemas and all queries must produce a result. **Where there** is a filter / projection, the result must show a difference from the original document. **This work may be done on your own laptop.** | | | | |
| Submission requirement Every student must submit the Word document and all scripts to create, populate and query the document collection(s) to Brightspace. | | | | |
| Demo requirementStudents must demonstrate their work to the lab supervisor. Failure to do so results in a zero mark. | | | | |
| Marking scheme: Schema designs and creates: 3 marks  Queries: 2 marks, Manipulating data: 1 mark. | | | | |