HANDOUT 1: START mongod, LOAD DATA

This handout describes how to start the `mongod` process, verify that you have version 3.4.x (available from https://docs.mongodb.com/manual/installation/), and load the sample data file (from BSON).

1. Start MongoDB

At the terminal, use the `mongod` command appropriate for your system. Examples:

MacOS	→	`$ mongod`
Linux	→	`$ sudo service mongod start`

2. Start the MongoDB shell

MacOS	→	`$ mongo`
Linux	→	`$ mongo`

3. In the MongoDB shell, check your version

(All)	→	`> db.version()`

Any version of 3.4.x is fine. If you have an older version, consider upgrading so that you can run the tutorial code.

4. Download the BSON file **mathcards.bson**

→ https://github.com/enrobyn/pymongo-tutorial

5. In a terminal, go to the folder containing the BSON file and run this:

```
$ mongorestore --db aprender -c mathcards mathcards.bson
```

Now we have a database named "aprender" containing a small collection of sample data (called "mathcards") with 120 individual documents.

6. To verify this, go back to the MongoDB shell:

```
$ mongo
> use aprender
> db.mathcards.count()
```

HANDOUT 2: SYNTAX FOR TASKS IN `tutorial.py`

`tutorial.py` is at https://github.com/enrobyn/pymongo-tutorial

All of the tasks are labeled with Python comments, e.g., # task1. NOTE: the schema is listed in the PDF on pg. 14 & 17 or can be viewed at the shell via:

```
> db.mathcards.findOne()
```

```
# task1a      $match   $count

# task1b      $match   $project

# task2a               $project     $size

# task2b & 3           $project     $group        $sum

# task4                $project     $group        $avg

# task5                             $group        $stdDevSamp


# task6       $unwind      $subtract               $avg

# task7       $unwind      $group   $addFields     $divide

# task8       ...          _______  _________

# task9       ...          _______  _________

# task10      ...          _______  _________

# other

$map     $let          $cond    $min     $max     $push

$first   $sum          $eq      $addToSet

$gt      $gte          $lt      $lte

                                $divide      $multiply
```

For more, please see the Aggregation Pipeline Quick Reference at **bit.ly/1YdER3X**

https://docs.mongodb.com/manual/meta/aggregation-quick-reference/