Unit 9: Databases & The Modern Web:

Lab 2 – People Pt. 1

Assigned: 02/27/23

Due: 03/01/23

Completed: 03/01/23

**LMS:** <https://lms.grandcircus.co/mod/assign/view.php?id=22856>

**Google Doc:** <https://docs.google.com/document/d/147MoIvOX07hiWusmvMg4PurbZgIgAnbdWZL1twXRcH4/preview>

**GitHub:** TBD

**Task:** Write queries for a MongoDB collection of people.

**Setup:** Load [this data](https://gist.github.com/dwolverton/59222c7148f9dbe62b68478981d8f190) for a people collection into your MongoDB database. You can copy-paste the contents into MongoDB shell and run it. The documents in this collection look like this:

{ "first\_name": "Patricia",

  "last\_name": "Medina",

  "email": "pmedina@trellian.com",

  "gender": "Female",

  "age": 36,

  "state": "Arizona",

  "children": [

    {"name": "Antonio", "age": 9},

    {"name": "George", "age": 13},

    {"name": "Kathy", "age": 16}

  ] }

**Build Specifications:**

Write MongoDB shell commands to do the following tasks. Record these commands in a text document and submit the document. You do not need to record the results of the commands.

*Note:* the numbers in parenthesis indicate the number of results to expect.

1. List all people. (200)
   * db.people.find()
2. Count all people. (200)
   * db.people.countDocuments()
3. List all people in Arizona. (6)
   * db.people.find({state: ‘Arizona’})
4. List all males in Arizona. (2)
   * db.people.find({state: ‘Arizona’, gender: ‘Male’})
5. List all people in Arizona plus New Mexico. (8)
   * db.people.find({ $or: [ {state: ‘Arizona’}, {state: ‘New Mexico’} ] })
   * **db.people.find{ $in: [“Arizona”, “New Mexico”] } }**
6. List all people under age 40. (90)
   * db.people.find({age: { $lt: 40 } })
7. List all females in Florida between the ages of 40 and 45 (inclusive). (4)
   * db.people.find({ gender: ‘Female’, state: ‘Florida’, age: { $lte: 45, $gte: 40 } })
8. List people whose first name starts with "H". (2)
   * db.people.find( { first\_name: {$regex: ‘H’} } )
9. List all people in Michigan, sorted by first name. (6)
   * db.people.find( { state: ‘Michigan’ }).sort( { first\_name: 1 } )
10. List all people who live in Virginia or are named Virginia.
    * db.people.find({ $or: [ { first\_name: ‘Virginia’ }, { state: ‘Virginia’ } ] })
11. List the names of people under age 30. Only display their first and last name. (38)
    * db.people.find( { age: {$lt: 30 } }, { first\_name: 1, last\_name: 1 } )
12. List all people in Montana. Display all information except age. (2)
    * db.people.find( { state: ‘Montana’ }, { age: 0 } )
13. List the email addresses of people with a ".edu" email. Only display the email. (12)
    * db.people.find( {email: /\.edu$/}, {email: 1} )

**Extended Challenges:**

1. Count all people with at least one child under age four. (69)
   * db.people.find( { ‘children.age’: { $lt: 4 } } )
2. List people who have no children. (43)
   * db.people.find( { ‘children’: [ ] } )
3. List people who have at least one child. (157)

Find more exercises here: <http://www.w3resource.com/mongodb-exercises/>