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Question	Status	Comment
Q1	Fully Working	For Question 3, it doesn't say the word Contribution but the question said similar to so I kept the way I had it.
Q2	Fully Working	
Q3	Fully Working	

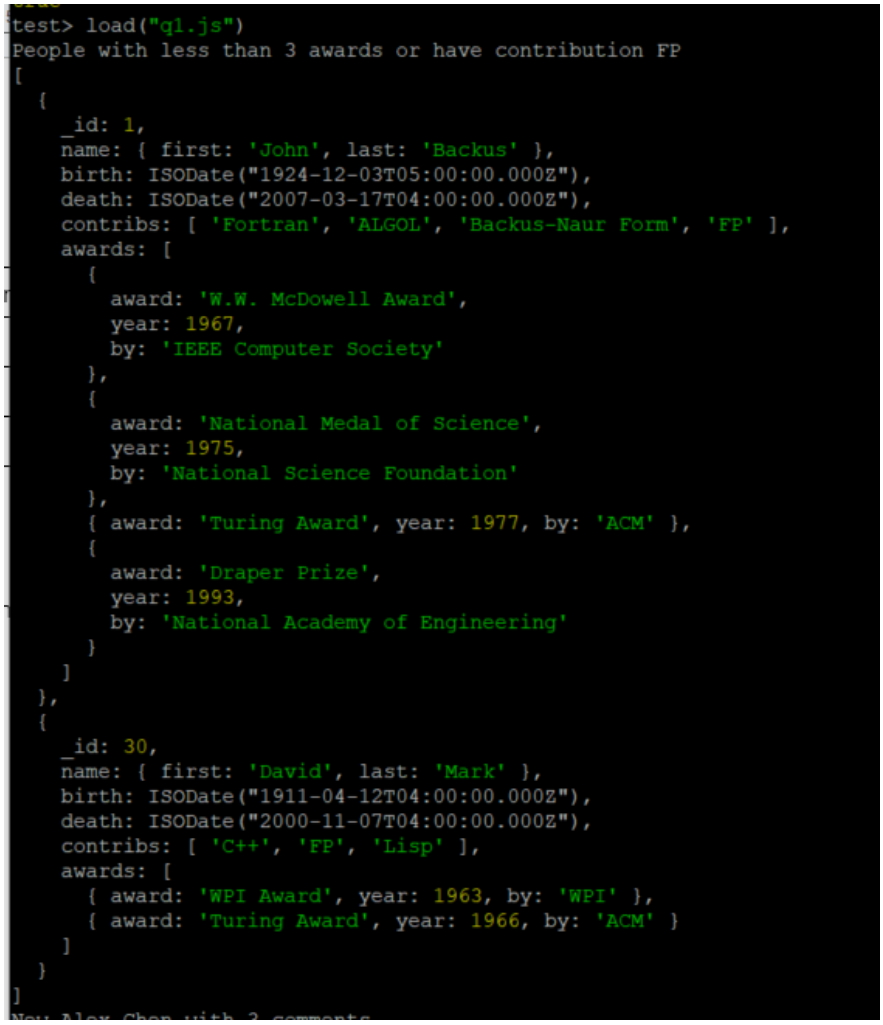
How to Run:

There are two .js files named **q1.js** and **q3.js**. q1.js contains the script for both Question 1 and Question 2 as they use the same dataset. Simply copy the files over to whatever directory you can run mongo and it can be run in two ways.

1. mongosh
   load("q1.js")
2. mongosh q1.js

Question 1:

1. Located inside of q1.js
2.


test> load("q1.js")
People with less than 3 awards or have contribution FP
[
{
_id: 1,
name: { first: 'John', last: 'Backus' },
birth: ISODate("1924-12-03T05:00:00.000Z"),
death: ISODate("2007-03-17T04:00:00.000Z"),
contribs: ['Fortran', 'ALGOL', 'Backus-Naur Form', 'FP'],
awards: [
{
award: 'W.W. McDowell Award',
year: 1967,
by: 'IEEE Computer Society'
},
{
award: 'National Medal of Science',
year: 1975,
by: 'National Science Foundation'
},
{ award: 'Turing Award', year: 1977, by: 'ACM' },
{
award: 'Draper Prize',
year: 1993,
by: 'National Academy of Engineering'
}
]
},
{
_id: 30,
name: { first: 'David', last: 'Mark' },
birth: ISODate("1911-04-12T04:00:00.000Z"),
death: ISODate("2000-11-07T04:00:00.000Z"),
contribs: ['C++', 'FP', 'Lisp'],
awards: [
{ award: 'WPI Award', year: 1963, by: 'WPI' },
{ award: 'Turing Award', year: 1966, by: 'ACM' }
]
}
]

3 and 4.

```
New Alex Chen with 3 comments
[
  {
    _id: 20,
    name: { first: 'Alex', last: 'Chen' },
    birth: ISODate("1933-08-27T04:00:00.000Z"),
    death: ISODate("1984-11-07T04:00:00.000Z"),
    contribs: [ 'C++', 'Simula' ],
    awards: [ { award: 'WPI Award', year: 1977, by: 'WPI' } ],
    comments: [
      'He taught in 3 universities',
      'died from cancer',
      'lived in CA'
    ]
  }
]
For each contribution of Alex Chen, print the first and last names with people who have the
 same contribution
C++
[
  { name: { first: 'Alex', last: 'Chen' } },
  { name: { first: 'David', last: 'Mark' } }
]
Simula
[
  { name: { first: 'Kristen', last: 'Nygaard' } },
  { name: { first: 'Ole-Johan', last: 'Dahl' } },
  { name: { first: 'Alex', last: 'Chen' } }
]
```

5.

```
Reports the distinct organization that gave awards
[
  ' British Computer Society',
  'ACM',
  'Canada',
  'Data Processing Management Association',
  'Free Software Foundation',
  'IEEE',
  'IEEE Computer Society',
  'Inamori Foundation',
  'NLUUG',
  'National Academy of Engineering',
  'National Science Foundation',
  'Norwegian Data Association',
  'The Economist',
  'The Japan Prize Foundation',
  'United States',
  'WPI'
]
```

Question 2

```
]
-----------------We are in Q2-----------------------------
Group by award name and report the count
[
  { _id: 'Draper Prize', count: 1 },
  { _id: 'WPI Award', count: 2 },
  { _id: 'IEEE John von Neumann Medal', count: 2 },
  { _id: 'W. W. McDowell Award', count: 1 },
  { _id: 'Rosing Prize', count: 2 },
  { _id: 'NLUUG Award', count: 1 },
  { _id: 'Kyoto Prize', count: 1 },
  { _id: 'Computer Sciences Man of the Year', count: 1 },
  { _id: 'Officer of the Order of Canada', count: 1 },
  { _id: 'The Economist Innovation Award', count: 1 },
  { _id: 'Turing Award', count: 6 },
  { _id: 'W.W. McDowell Award', count: 1 },
  { _id: 'Japan Prize', count: 1 },
  { _id: 'National Medal of Technology', count: 2 },
  { _id: 'Award for the Advancement of Free Software', count: 2 },
  { _id: 'Distinguished Fellow', count: 1 },
  { _id: 'National Medal of Science', count: 2 }
]
```

```
Group by birth year and report an array of _ids of each birth year
[
  { _id: 1941, ids: [ ObjectId("51e062189c6ae665454e301d") ] },
  { _id: 1965, ids: [ 8 ] },
  { _id: 1911, ids: [ 30 ] },
  { _id: 1906, ids: [ 3 ] },
  { _id: 1955, ids: [ 9 ] },
  { _id: 1926, ids: [ 4 ] },
  { _id: 1933, ids: [ 20 ] },
  { _id: null, ids: [ 10 ] },
  { _id: 1956, ids: [ 6 ] },
  { _id: 1927, ids: [ ObjectId("51df07b094c6acd67e492f41") ] },
  { _id: 1924, ids: [ 1 ] },
  { _id: 1931, ids: [ 5 ] }
]
Group by awards year and report the count of people who recieved awards in this year
[
  { _id: 1967, count_people: 1 },
  { _id: 1971, count_people: 1 },
  { _id: 1969, count_people: 1 },
  { _id: 1991, count_people: 1 },
  { _id: 1999, count_people: 2 },
  { _id: 1998, count_people: 1 },
  { _id: 1975, count_people: 1 },
  { _id: 1993, count_people: 1 },
  { _id: 1988, count_people: 1 },
  { _id: 1976, count_people: 1 },
  { _id: 1973, count_people: 1 },
  { _id: 2003, count_people: 1 },
  { _id: 2011, count_people: 1 },
  { _id: '2011', count_people: 1 },
  { _id: 2002, count_people: 1 },
  { _id: 2007, count_people: 1 },
  { _id: 1990, count_people: 1 },
  { _id: 1983, count_people: 1 },
  { _id: 1966, count_people: 1 },
  { _id: 1963, count_people: 1 }
]
Type "it" for more
true
test> it
[ { _id: 2001, count_people: 5 }, { _id: 1977, count_people: 2 } ]
test>
```

Question 3

```
test> load("q3.js")
All of the Nodes in the Parent tree
[
  { _id: 'MongoDB', parent: 'Databases' },
  { _id: 'dbm', parent: 'Databases' },
  { _id: 'Databases', parent: 'Programming' },
  { _id: 'Languages', parent: 'Programming' },
  { _id: 'Programming', parent: 'Books' },
  { _id: 'Books', parent: null }
]
Report the ancestors of MongoDB
[
  { Name: 'Databases', Level: 1 },
  { Name: 'Programming', Level: 2 },
  { Name: 'Books', Level: 3 }
]
Height of tree
4
All Nodes in Children Tree
[
  { _id: 'MongoDB', children: [] },
  { _id: 'dbm', children: [] },
  { _id: 'Databases', children: [ 'MongoDB', 'dbm' ] },
  { _id: 'Languages', children: [] },
  { _id: 'Programming', children: [ 'Databases', 'Languages' ] },
  { _id: 'Books', children: [ 'Programming' ] }
]
All the descendants of Books
[ 'Programming', 'Languages', 'Databases', 'dbm', 'MongoDB' ]
true
categories>
```