

Brandon Lasher
CSIT565 HW 6

Q1)

Code:

```
db.gutenbergCollection.insertOne(
  {
    "id" : "30000",
    "url" : "https://www.gutenberg.org/files/30000/30000-0.txt",
    "title" : "The Bird Book",
    "author" : "Chester A. Reed" ,
    "released" : "September 15, 2009",
    "price" : 7.99
  }
)
```

Output:

```
{
  "acknowledged": true,
  "insertedId": {
    "$oid": "6363369d1aefd8e41fa3c26e"
  }
}
```

Q2)

Code:

```
db.gutenbergCollection.count()
```

Output:

2958

Q3)

Code:

```
db.gutenbergCollection.update({author: "Lucius Seneca"},
  {'$set' : {'dob' : '10/10/0004 BC' }})
```

Output:

```
{
  "acknowledged": true,
  "insertedId": null,
  "matchedCount": 1,
  "modifiedCount": 1,
}
```

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```
"upsertedCount": 0  
}
```

Check:

```
db.gutenbergCollection.find({author: "Lucius Seneca"}, {_id:0}).pretty()  
[  
  {  
    "id": "10001",  
    "url": "http://www.gutenberg.org/files/10001/10001.txt",  
    "title": "Apocolocyntosis",  
    "author": "Lucius Seneca",  
    "released": "November 10, 2003",  
    "price": 5.39,  
    "dob": "10/10/0004 BC"  
  }  
]
```

Q4)

Code:

```
db.gutenbergCollection.find({"price" : {$gt: 9}}).count()
```

Output: 319

Q5)

```
db.gutenbergCollection.find(  
  {  
    "author" : {$regex : "Fred"},  
    "price" : {$lt: 4}  
  }  
  ,  
  {  
    _id: 0,  
    "id": 0,  
    "url": 0,  
    "released": 0,  
    "price": 0  
  }  
).sort({"author": 1})
```

Output:

```
[
  {
    "title": "The Man in Court",
    "author": "Frederic DeWitt Wells"
  },
  {
    "title": "More Tales of the Ridings",
    "author": "Frederic Moorman"
  },
  {
    "title": "Amerigo Vespucci",
    "author": "Frederick A. Ober"
  },
  {
    "title": "'Old Put' The Patriot",
    "author": "Frederick A. Ober"
  },
  {
    "title": "The Condition of the Working-Class in England in 1844",
    "author": "Frederick Engels"
  },
  {
    "title": "The Great War As I Saw It",
    "author": "Frederick George Scott"
  },
  {
    "title": "The Character and Influence of the Indian Trade in Wisconsin",
    "author": "Frederick Jackson Turner"
  },
  {
    "title": "Some Winter Days in Iowa",
    "author": "Frederick John Lazell"
  },
  {
    "title": "Some Summer Days in Iowa",
    "author": "Frederick John Lazell"
  },
  {
    "title": "The Seventh Noon",
    "author": "Frederick Orin Bartlett"
  },
  {
    "title": "Capitals",
    "author": "Frederick W. Hamilton"
  },
]
```

```
{
  "title": "Riders of the Silences",
  "author": "John Frederick"
},
{
  "title": "The Flutter of the Goldleaf; and Other Plays",
  "author": "Olive Tilford Dargan and Frederick Peterson"
},
{
  "title": "Mental Defectives and Sexual Offenders",
  "author": "W. H. Triggs, Donald McGavin, Frederick Truby King, J. Sands
Elliot, Ada G. Patterson, C.E. Matthews and J. Beck"
}
]
```

Q6)

Code:

```
db.gutenbergCollection.aggregate([
  {$match: { "author" : {$regex : "smith"} } },
  {$group: { _id: "$author", count: { $sum: 1 } }}
])
```

Output:

```
[
  {
    "_id": "Oliver Goldsmith",
    "count": 2
  },
  {
    "_id": "Milton Goldsmith",
    "count": 1
  },
  {
    "_id": "George G. Nasmith",
    "count": 1
  }
]
```

Q7)

Code:

```
db.movies.aggregate([
```

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```
{ $unwind: "$directors" },
{ $group: { _id: "$directors", count: { $count: {} } } },
{ $sort: { "count": -1 } },
{ $limit: 10 },
])
```

Output:

```
[
  {
    "_id": "Woody Allen",
    "count": 40
  },
  {
    "_id": "John Ford",
    "count": 35
  },
  {
    "_id": "John Huston",
    "count": 34
  },
  {
    "_id": "Takashi Miike",
    "count": 34
  },
  {
    "_id": "Werner Herzog",
    "count": 33
  },
  {
    "_id": "Martin Scorsese",
    "count": 32
  },
  {
    "_id": "Alfred Hitchcock",
    "count": 31
  },
  {
    "_id": "Sidney Lumet",
    "count": 30
  },
  {
    "_id": "Steven Spielberg",
    "count": 29
  },
  {

```

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```
"_id": "George Cukor",  
"count": 29  
}  
]
```

Q8)

Code:

```
db.comments.aggregate([  
  {  
    $match: { "movie_id": ObjectId("573a1396f29313caabce4c60") }  
  },  
  {  
    $lookup:  
    {  
      from: "movies",  
      localField: "movie_id",  
      foreignField: "_id",  
      as: "allComments"  
    }  
  },  
  {  
    $replaceRoot: {  
      newRoot:  
        {  
          $mergeObjects: [ { $arrayElemAt: ["$allComments",0] }, "$$ROOT" ]  
        }  
      }  
    },  
    {  
      $project: {  
        _id: 0,  
        "title" : 1,  
        "name" : 1,  
        "text" : 1  
      }  
    }  
  ])
```

Output:

```
[  
  {  
    "title": "Play It Again, Sam",  
    "name": "Paul Bailey",
```

```
    "text": "Cum ipsam soluta neque beatae facilis ratione vitae distinctio.  
Facilis autem veritatis harum at quo laudantium minima."  
  },  
  {  
    "title": "Play It Again, Sam",  
    "name": "Irri",  
    "text": "Natus alias animi commodi. Nulla facere quis molestias totam omnis.  
Tempora autem doloremque ipsum quod rem reiciendis. Eaque soluta omnis doloremque  
vero."  
  },  
  {  
    "title": "Play It Again, Sam",  
    "name": "Catherine Romero",  
    "text": "Cum reprehenderit dolorum molestiae ratione dignissimos. Repellendus  
amet qui dicta facilis expedita delectus placeat. Quisquam rerum quos minus nisi  
dolor."  
  },  
  {  
    "title": "Play It Again, Sam",  
    "name": "Phillip Collins",  
    "text": "Quo libero voluptatem nesciunt ducimus ullam. Quo illo  
exercitationem deleniti ut possimus repellat non. Non corrupti reprehenderit  
labore beatae ipsum."  
  }  
]
```

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Q9)

In the application of a product catalog, it would be preferable to use MongoDB as opposed to a relational database. The main benefit is the ability to have a Dynamic Schema and contain different types of objects. This allows products documents to contain only relevant attributes to there individual products. This also allows for new types of products with new attributes to be added without having to restructure tables.