

Question 1: - Load in the documents into a collection called “music” from the dbs311.final.json file

Answer:

```
db.music.find()
```

```
>
> db.music.find()
{ "_id" : ObjectId("62f4a7c474b375cec9298149"), "artist" : "AC/DC", "albums" : [ { "title" : "High Voltage", "year" : 1976 }, { "title" : "Back in Black", "year" : 1980 }, { "title" : "Dirty Deeds Done Dirt Cheap", "year" : 1976 }, { "title" : "Highway to Hell", "year" : 1979 } ], "singers" : "Bon Scott" }
{ "_id" : ObjectId("62f4a7c474b375cec929814a"), "artist" : "Rush", "albums" : [ { "title" : "A Farewell to Kings", "year" : 1977 }, { "title" : "Moving Pictures", "year" : 1981 }, { "title" : "2112", "year" : 1976 }, { "title" : "Fly By Night", "year" : 1975 } ], "singers" : "Geddy Lee" }
{ "_id" : ObjectId("62f4a7c474b375cec929814b"), "artist" : "Pink Floyd", "albums" : [ { "title" : "The Dark Side of the Moon", "year" : 1973 }, { "title" : "The Wall", "year" : 1979 }, { "title" : "The Division Bell", "year" : 1994 }, { "title" : "Animals", "year" : 1977 }, { "title" : "Wish You Were Here", "year" : 1975 } ], "singers" : "David Gilmore and Roger Waters" }
{ "_id" : ObjectId("62f4a7c474b375cec929814c"), "artist" : "Led Zeppelin", "albums" : [ { "title" : "Led Zeppelin I", "year" : 1969 }, { "title" : "Led Zeppelin 2", "year" : 1969 }, { "title" : "Led Zeppelin 3", "year" : 1970 }, { "title" : "Led Zeppelin 4", "year" : 1971 } ], "singers" : "Robert Plant" }
>
```

Question 2: Insert a new document into the collection, following the same structure as in the music collection

Answer:

```
db.music.insertOne({artist: "Scorpions", albums: [{title: "Lovedrive", year: 1979}, {title: "Blackout", year: 1982}, {title: "Love at first string", year: 1984}, {title: "Eye to Eye", year: 1999}], singers: "Klaus Meine"})
```

```
>
> db.music.insertOne({artist: "Scorpions", albums: [{title: "Lovedrive", year: 1979}, {title: "Blackout", year: 1982}, {title: "Love at first string", year: 1984}, {title: "Eye to Eye", year: 1999}], singers: "Klaus Meine"})
{ "acknowledged" : true, "insertedId" : ObjectId("62f4ac6d95b773862452decf") }
>
> db.music.find()
{ "_id" : ObjectId("62f4a7c474b375cec9298149"), "artist" : "AC/DC", "albums" : [ { "title" : "High Voltage", "year" : 1976 }, { "title" : "Back in Black", "year" : 1980 }, { "title" : "Dirty Deeds Done Dirt Cheap", "year" : 1976 }, { "title" : "Highway to Hell", "year" : 1979 } ], "singers" : "Bon Scott" }
{ "_id" : ObjectId("62f4a7c474b375cec929814a"), "artist" : "Rush", "albums" : [ { "title" : "A Farewell to Kings", "year" : 1977 }, { "title" : "Moving Pictures", "year" : 1981 }, { "title" : "2112", "year" : 1976 }, { "title" : "Fly By Night", "year" : 1975 } ], "singers" : "Geddy Lee" }
{ "_id" : ObjectId("62f4a7c474b375cec929814b"), "artist" : "Pink Floyd", "albums" : [ { "title" : "The Dark Side of the Moon", "year" : 1973 }, { "title" : "The Wall", "year" : 1979 }, { "title" : "The Division Bell", "year" : 1994 }, { "title" : "Animals", "year" : 1977 }, { "title" : "Wish You Were Here", "year" : 1975 } ], "singers" : "David Gilmore and Roger Waters" }
{ "_id" : ObjectId("62f4a7c474b375cec929814c"), "artist" : "Led Zeppelin", "albums" : [ { "title" : "Led Zeppelin I", "year" : 1969 }, { "title" : "Led Zeppelin 2", "year" : 1969 }, { "title" : "Led Zeppelin 3", "year" : 1970 }, { "title" : "Led Zeppelin 4", "year" : 1971 } ], "singers" : "Robert Plant" }
{ "_id" : ObjectId("62f4ac6d95b773862452decf"), "artist" : "Scorpions", "albums" : [ { "title" : "Lovedrive", "year" : 1979 }, { "title" : "Blackout", "year" : 1982 }, { "title" : "Love at first string", "year" : 1984 }, { "title" : "Eye to Eye", "year" : 1999 } ], "singers" : "Klaus Meine" }
>
```

Question 3: Run a query which will output all the bands and albums which hit the market in either the 1960s OR the 1990s

Answer:

```
db.music.find({"$or": [{'albums.year': {$gte: 1960, $lte: 1969}}, {'albums.year': {$gte: 1990, $lte: 1999}}],{_id: 0, artist: 1, 'albums.title': 1, 'albums.year': 1})
```

```
>
>
db.music.find({"$or": [{'albums.year': {$gte: 1960, $lte: 1969}}, {'albums.year': {$gte: 1990, $lte: 1999}}],{_id: 0, artist: 1, 'albums.title': 1, 'albums.year': 1})
{ "artist" : "Pink Floyd", "albums" : [ { "title" : "The Dark Side of the Moon", "year" : 1973 }, { "title" : "The Wall", "year" : 1979 }, { "title" : "The Division Bell", "year" : 1994 }, { "title" : "Animals", "year" : 1977 }, { "title" : "Wish You Were Here", "year" : 1975 } ] }
{ "artist" : "Led Zeppelin", "albums" : [ { "title" : "Led Zeppelin I", "year" : 1969 }, { "title" : "Led Zeppelin 2", "year" : 1969 }, { "title" : "Led Zeppelin 3", "year" : 1970 }, { "title" : "Led Zeppelin 4", "year" : 1971 } ] }
{ "artist" : "Scorpions", "albums" : [ { "title" : "Lovedrive", "year" : 1979 }, { "title" : "Blackout", "year" : 1982 }, { "title" : "Love at first string", "year" : 1984 }, { "title" : "Eye to Eye", "year" : 1999 } ] }
>
```

Question 4: Run a query which reads a list of years and displays the bands and their albums which delivered in any year in the list

Answer:

```
db.music.find({"albums.year": {$in: [1971, 1973, 1975, 1977, 1979]}}, {_id : 0})
```

```
>
>
db.music.find({"albums.year": {$in: [1971, 1973, 1975, 1977, 1979]}}, {_id : 0})
{ "artist" : "AC/DC", "albums" : [ { "title" : "High Voltage", "year" : 1976 }, { "title" : "Back in Black", "year" : 1980 }, { "title" : "Dirty Deads Done Dirt Cheap", "year" : 1976 }, { "title" : "Highway to Hell", "year" : 1979 } ], "singers" : "Bon Scott" }
{ "artist" : "Rush", "albums" : [ { "title" : "A Farewell to Kings", "year" : 1977 }, { "title" : "Moving Pictures", "year" : 1981 }, { "title" : "2112", "year" : 1976 }, { "title" : "Fly By Night", "year" : 1975 } ], "singers" : "Geddy Lee" }
{ "artist" : "Pink Floyd", "albums" : [ { "title" : "The Dark Side of the Moon", "year" : 1973 }, { "title" : "The Wall", "year" : 1979 }, { "title" : "The Division Bell", "year" : 1994 }, { "title" : "Animals", "year" : 1977 }, { "title" : "Wish You Were Here", "year" : 1975 } ], "singers" : "David Gilmore and Roger Waters" }
{ "artist" : "Led Zeppelin", "albums" : [ { "title" : "Led Zeppelin I", "year" : 1969 }, { "title" : "Led Zeppelin 2", "year" : 1969 }, { "title" : "Led Zeppelin 3", "year" : 1970 }, { "title" : "Led Zeppelin 4", "year" : 1971 } ], "singers" : "Robert Plant" }
{ "artist" : "Scorpions", "albums" : [ { "title" : "Lovedrive", "year" : 1979 }, { "title" : "Blackout", "year" : 1982 }, { "title" : "Love at first string", "year" : 1984 }, { "title" : "Eye to Eye", "year" : 1999 } ], "singers" : "Klaus Meine" }
>
```

Question 5: Run a set of commands which will add in a new attribute to each document called “Guitarist”

Answer:

```

db.music.update({artist: "Rush"}, {$set: {"guitarist": "Alex Lifeson"}})

db.music.update({artist: "Scorpions"}, {$set: {"guitarist": "Mathias Jabs"}})

db.music.update({artist: "AC/DC"}, {$set: {"guitarist": "Malcolm Young"}})

db.music.update({artist: "Pink Floyd"}, {$set: {"guitarist": ["David Gilmour", "Roger Waters"]}})

db.music.update({artist: "Led Zeppelin"}, {$set: {"guitarist": "Jimmy Page"}})

```

```

> db.music.update({artist: "Rush"}, {$set: {"guitarist": "Alex Lifeson"}})
WriteResult({"nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
>
> db.music.update({artist: "Scorpions"}, {$set: {"guitarist": "Mathias Jabs"}})
WriteResult({"nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
>
> db.music.update({artist: "AC/DC"}, {$set: {"guitarist": "Malcolm Young"}})
WriteResult({"nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
>
> db.music.update({artist: "Pink Floyd"}, {$set: {"guitarist": ["David Gilmour", "Roger Waters"]}})
WriteResult({"nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
>
> db.music.update({artist: "Led Zeppelin"}, {$set: {"guitarist": "Jimmy Page"}})
WriteResult({"nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
>
>
> db.music.find()
{ "_id" : ObjectId("62f4a7c474b375cec9298149"), "artist" : "AC/DC", "albums" : [ { "title" : "High Voltage", "year" : 1976 }, { "title" : "Back in Black", "year" : 1980 }, { "title" : "Dirty Deeds Done Dirt Cheap", "year" : 1976 }, { "title" : "Highway to Hell", "year" : 1979 } ], "singers" : "Bon Scott", "guitarist" : "Malcolm Young" }
{ "_id" : ObjectId("62f4a7c474b375cec929814a"), "artist" : "Rush", "albums" : [ { "title" : "A Farewell to Kings", "year" : 1977 }, { "title" : "Moving Pictures", "year" : 1981 }, { "title" : "2112", "year" : 1976 }, { "title" : "Fly By Night", "year" : 1975 } ], "singers" : "Geddy Lee", "guitarist" : "Alex Lifeson" }
{ "_id" : ObjectId("62f4a7c474b375cec929814b"), "artist" : "Pink Floyd", "albums" : [ { "title" : "The Dark Side of the Moon", "year" : 1973 }, { "title" : "The Wall", "year" : 1979 }, { "title" : "The Division Bell", "year" : 1994 }, { "title" : "Animals", "year" : 1977 }, { "title" : "Wish You Were Here", "year" : 1975 } ], "singers" : "David Gilmore and Roger Waters", "guitarist" : [ "David Gilmour", "Roger Waters" ] }
{ "_id" : ObjectId("62f4a7c474b375cec929814c"), "artist" : "Led Zeppelin", "albums" : [ { "title" : "Led Zeppelin I", "year" : 1969 }, { "title" : "Led Zeppelin 2", "year" : 1969 }, { "title" : "Led Zeppelin 3", "year" : 1970 }, { "title" : "Led Zeppelin 4", "year" : 1971 } ], "singers" : "Robert Plant", "guitarist" : "Jimmy Page" }
{ "_id" : ObjectId("62f4a6d95b73862452decf"), "artist" : "Scorpions", "albums" : [ { "title" : "Lovedrive", "year" : 1979 }, { "title" : "Blackout", "year" : 1982 }, { "title" : "Love at first string", "year" : 1984 }, { "title" : "Eye to Eye", "year" : 1999 } ], "singers" : "Klaus Meine", "guitarist" : "Mathias Jabs" }
>

```

Question 6: Run a query which shows each album and the year from the Scorpions

- Run a command which increments each of the years by 5 for every album by Scorpions
- Run a query which shows each album and the year from the Scorpions

Answer:

```

db.music.find({artist: "Scorpions"}, {_id: 0, artist: 1, 'albums.title': 1, 'albums.year': 1})

db.music.update({artist: "Scorpions"}, {"$inc": {"albums.$.year": 5}}, {_id: 0, artist: 1, 'albums.title': 1, 'albums.year': 1})

db.music.find({artist: "Scorpions"}, {_id: 0, artist: 1, 'albums.title': 1, 'albums.year': 1})

```

```

> db.music.find({artist: "Scorpions"}, {_id: 0, artist: 1, 'albums.title': 1, 'albums.year': 1})
{ "artist" : "Scorpions", "albums" : [ { "title" : "Lovedrive", "year" : 1979 }, { "title" : "Blackout", "year" : 1982 }, { "title" : "Love at first string", "year" : 1984 }, { "title" : "Eye to Eye", "year" : 1999 } ] }
>
> db.music.update({artist: "Scorpions"}, {"$inc": {"albums.$.year": 5}}, {_id: 0, artist: 1, 'albums.title': 1, 'albums.year': 1})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
>
> db.music.find({artist: "Scorpions"}, {_id: 0, artist: 1, 'albums.title': 1, 'albums.year': 1})
{ "artist" : "Scorpions", "albums" : [ { "title" : "Lovedrive", "year" : 1984 }, { "title" : "Blackout", "year" : 1987 }, { "title" : "Love at first string", "year" : 1989 }, { "title" : "Eye to Eye", "year" : 2004 } ] }
>

```

Question 7:

- Run a command which removes the document for the Scorpions
- Run a command which removes the album “The Wall” from Pink Floyd
- Run a command which removes all albums that hit the market in the 1970s from all bands

Answer:

```

db.music.deleteOne({"artist": "Scorpions"})

db.music.update({"artist": "Pink Floyd"}, {$pull: {albums: {'title': "The Wall"}}})

db.music.update({}, {$pull: {albums: {year: {$gte: 1970, $lte: 1979}}}}, {multi: true})

```

```

> db.music.deleteOne({"artist": "Scorpions"})
{ "acknowledged" : true, "deletedCount" : 1 }
>
> db.music.update({"artist": "Pink Floyd"}, {$pull: {albums: {'title': "The Wall"}}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
>
> db.music.update({}, {$pull: {albums: {year: {$gte: 1970, $lte: 1979}}}}, {multi: true})
WriteResult({ "nMatched" : 4, "nUpserted" : 0, "nModified" : 4 })
>
> db.music.find()
{ "_id" : ObjectId("62f4a7c474b375cec9298149"), "artist" : "AC/DC", "albums" : [ { "title" : "Back in Black", "year" : 1980 } ], "singers" : "Bon Scott", "guitarist" : "Malcolm Young" }
{ "_id" : ObjectId("62f4a7c474b375cec929814a"), "artist" : "Rush", "albums" : [ { "title" : "Moving Pictures", "year" : 1981 } ], "singers" : "Geddy Lee", "guitarist" : "Alex Lifeson" }
{ "_id" : ObjectId("62f4a7c474b375cec929814b"), "artist" : "Pink Floyd", "albums" : [ { "title" : "The Division Bell", "year" : 1994 } ], "singers" : "David Gilmore and Roger Waters", "guitarist" : [ "David Gilmore", "Roger Waters" ] }
{ "_id" : ObjectId("62f4a7c474b375cec929814c"), "artist" : "Led Zeppelin", "albums" : [ { "title" : "Led Zeppelin I", "year" : 1969 }, { "title" : "Led Zeppelin 2", "year" : 1969 } ], "singers" : "Robert Plant", "guitarist" : "Jimmy Page" }
>

```