ASSIGNMENT 6.2 - AGGREGATE QUERIES

Part 2.a: Display all students.

```
Atlas atlas-dy3k5g-shard-0 [primary] web335DB> db.students.find()
[
  {
    _id: ObjectId('67abf1468c4fafea1dcb0ce6'),
    firstName: 'Albus',
    lastName: 'Dumbledore',
    studentId: 's1007',
    houseId: 'h1007'
  },
  {
    _id: ObjectId('67abf1468c4fafea1dcb0ce7'),
    firstName: 'Minerva',
    lastName: 'McGonagall',
    studentId: 's1008',
    houseId: 'h1007'
  },
  {
    _id: ObjectId('67abf1468c4fafea1dcb0ce8'),
    firstName: 'Hagrid',
    lastName: 'Rubeus',
    studentId: 's1009',
    houseId: 'h1007'
  },
  {
    _id: ObjectId('67abf1468c4fafea1dcb0ce9'),
    firstName: 'Bridget',
    lastName: 'Wenlock',
    studentId: 's1010',
    houseId: 'h1008'
  },
  {
    _id: ObjectId('67abf1468c4fafea1dcb0cea'),
    firstName: 'Cedric',
    lastName: 'Diggory',
    studentId: 's1011',
    houseId: 'h1008'
  },
  {
    _id: ObjectId('67abf1478c4fafea1dcb0ceb'),
    firstName: 'Hannah',
    lastName: 'Abbott',
    studentId: 's1012',
    houseId: 'h1008'
  },
  {
    _id: ObjectId('67abf1478c4fafea1dcb0cec'),
    firstName: 'Luna',
    lastName: 'Lovegood',
    studentId: 's1013',
    houseId: 'h1009'
  },
  {
    _id: ObjectId('67abf1478c4fafea1dcb0ced'),
    firstName: 'Sybill',
    lastName: 'Trelawney',
    studentId: 's1014',
    houseId: 'h1009'
  },
  {
    _id: ObjectId('67abf1478c4fafea1dcb0cee'),
    firstName: 'Cho',
    lastName: 'Chang',
    lastName: 'Chang',
    lastName: 'Chang',
    studentId: 's1015',
    houseId: 'h1009'
  },
  {
    _id: ObjectId('67abf1478c4fafea1dcb0cef'),
    firstName: 'Lucius',
    lastName: 'Malfoy',
    studentId: 's1016',
    lastName: 'Chang',
    lastName: 'Chang',
    lastName: 'Chang',
    studentId: 's1015',
    houseId: 'h1009',
    lastName: 'Chang',
    studentId: 's1015',
    houseId: 'h1009'
  },
    lastName: 'Chang',
    studentId: 's1015',
    houseId: 'h1009'
    lastName: 'Chang',
    studentId: 's1015',
    lastName: 'Chang',
    studentId: 's1015',
    lastName: 'Chang',
    lastName: 'Chang',
    studentId: 's1015',
    houseId: 'h1009'
  },
  {
    _id: ObjectId('67abf1478c4fafea1dcb0cef'),
    firstName: 'Lucius',
    lastName: 'Malfoy',
    studentId: 's1016',
    houseId: 'h1010'
  },
  {
    _id: ObjectId('67abf1478c4fafea1dcb0cf0'),
    firstName: 'Albus',
    lastName: 'Potter',
    studentId: 's1017',
    houseId: 'h1010'
  },
  {
    _id: ObjectId('67abf1478c4fafea1dcb0cf1'),
    firstName: 'Bellatrix',
    lastName: 'Lestrange',
    studentId: 's1018',
    houseId: 'h1010'
  }

Atlas atlas-dy3k5g-shard-0 [primary] web335DB>
```

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Part 2.b: Add a new student and prove student was added

```
Atlas atlas-dy3k5g-shard-0 [primary] web335DB> db.students.insertOne({firstName: "John", lastName: "Doe", studentId: "s1019", houseId: "h1007"})
{
  acknowledged: true,
  insertedId: ObjectId('67ac02a88c4fafea1dcb0cf2')
}
```

Part 2.b Proof:

```
Atlas atlas-dy3k5g-shard-0 [primary] web335DB> db.students.findOne({studentId: "s1019"});
{
  _id: ObjectId('67ac02a88c4fafea1dcb0cf2'),
  firstName: 'John',
  lastName: 'Doe',
  studentId: 's1019',
  houseId: 'h1007'
}
Atlas atlas-dy3k5g-shard-0 [primary] web335DB>
```

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Part 2.c: Update the newly added student's last name

```
Atlas atlas-dy3k5g-shard-0 [primary] web335DB> db.students.updateOne({studentId: "s1019"}, {$set: {lastName: "Smith"}})
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0
}
```

Part 2.c proof:

```
Atlas atlas-dy3k5g-shard-0 [primary] web335DB> db.students.findOne({studentId: "s1019"});
{
  _id: ObjectId('67ac02a88c4fafea1dcb0cf2'),
  firstName: 'John',
  lastName: 'Smith',
  studentId: 's1019',
  houseId: 'h1007'
}
```

Part 2.d: Delete the newly added student

```
Atlas atlas-dy3k5g-shard-0 [primary] web335DB> db.students.deleteOne({studentId: "s1019"});
{ acknowledged: true, deletedCount: 1 }
```

Part 2.d proof:

```
Atlas atlas-dy3k5g-shard-0 [primary] web335DB> db.students.findOne({studentId: "s1019"});
null
```

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Part 2.e: Display all students by house

Command:

```
Atlas atlas-dy3k5g-shard-0 [primary] web335DB> db.houses.find().forEach(function(house){print("\nhouse: " + house.houseId);db.students.find({"houseId": house.houseId}).forEach(printjson);});
```

Student by Houses:

```
house: h1007
{
  _id: ObjectId('67abf1468c4fafea1dcb0ce6'),
  firstName: 'Albus',
  lastName: 'Dumbledore',
  studentId: 's1007',
  houseId: 'h1007'
}
{
  _id: ObjectId('67abf1468c4fafea1dcb0ce7'),
  firstName: 'Minerva',
  lastName: 'McGonagall',
  studentId: 's1008',
  houseId: 'h1007'
}
{
  _id: ObjectId('67abf1468c4fafea1dcb0ce8'),
  firstName: 'Hagrid',
  lastName: 'Rubeus',
  studentId: 's1009',
  houseId: 'h1007'
}

house: h1008
{
  _id: ObjectId('67abf1468c4fafea1dcb0ce9'),
  firstName: 'Bridget',
  lastName: 'Wenlock',
  studentId: 's1010',
  houseId: 'h1008'
}
{
  _id: ObjectId('67abf1468c4fafea1dcb0cea'),
  firstName: 'Cedric',
  lastName: 'Diggory',
  studentId: 's1011',
  houseId: 'h1008'
}
{
  _id: ObjectId('67abf1478c4fafea1dcb0ceb'),
  firstName: 'Hannah',
  lastName: 'Abbott',
  studentId: 's1012',
  houseId: 'h1008'
}

house: h1010
{
  _id: ObjectId('67abf1478c4fafea1dcb0cef'),
  firstName: 'Lucius',
  lastName: 'Malfoy',
  studentId: 's1016',
  houseId: 'h1010'
}
{
  _id: ObjectId('67abf1478c4fafea1dcb0cf0'),
  firstName: 'Albus',
  lastName: 'Potter',
  studentId: 's1017',
  houseId: 'h1010'
}
{
  _id: ObjectId('67abf1478c4fafea1dcb0cf1'),
  firstName: 'Bellatrix',
  lastName: 'Lestrange',
  studentId: 's1018',
  houseId: 'h1010'
}

house: h1009
{
  _id: ObjectId('67abf1478c4fafea1dcb0cec'),
  firstName: 'Luna',
  lastName: 'Lovegood',
  studentId: 's1013',
  houseId: 'h1009'
}
{
  _id: ObjectId('67abf1478c4fafea1dcb0ced'),
  firstName: 'Sybill',
  lastName: 'Trelawney',
  studentId: 's1014',
  houseId: 'h1009'
}
{
  _id: ObjectId('67abf1478c4fafea1dcb0cee'),
  firstName: 'Cho',
  lastName: 'Chang',
  studentId: 's1015',
  houseId: 'h1009'
}
```

Part 2.f: Display all students in the house Gryffindor

```
Atlas atlas-dy3k5g-shard-0 [primary] web335DB> db.students.find({houseId: "h1007"})
[
  {
    _id: ObjectId('67abf1468c4fafea1dcb0ce6'),
    firstName: 'Albus',
    lastName: 'Dumbledore',
    studentId: 's1007',
    houseId: 'h1007'
  },
  {
    _id: ObjectId('67abf1468c4fafea1dcb0ce7'),
    firstName: 'Minerva',
    lastName: 'McGonagall',
    studentId: 's1008',
    houseId: 'h1007'
  },
  {
    _id: ObjectId('67abf1468c4fafea1dcb0ce8'),
    firstName: 'Hagrid',
    lastName: 'Rubeus',
    studentId: 's1009',
    houseId: 'h1007'
  }
]
Atlas atlas-dy3k5g-shard-0 [primary] web335DB>
```

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Par 2.g: Display all students in the house with an Eagle mascot.

Command:

```
Atlas atlas-dy3k5g-shard-0 [primary] web335DB> db.houses.find({ mascot: "Eagle" }).forEach(function (house) {
... print("House: " + house.houseId);
... db.students.find({ "houseId": house.houseId }).forEach(printjson);
... });
```

Students with Eagle mascot:

```
House: h1009
{
  _id: ObjectId('67abf1478c4fafea1dcb0cec'),
  firstName: 'Luna',
  lastName: 'Lovegood',
  studentId: 's1013',
  houseId: 'h1009'
}
{
  _id: ObjectId('67abf1478c4fafea1dcb0ced'),
  firstName: 'Sybill',
  lastName: 'Trelawney',
  studentId: 's1014',
  houseId: 'h1009'
}
{
  _id: ObjectId('67abf1478c4fafea1dcb0cee'),
  firstName: 'Cho',
  lastName: 'Chang',
  studentId: 's1015',
  houseId: 'h1009'
}
```