CS457_hw6

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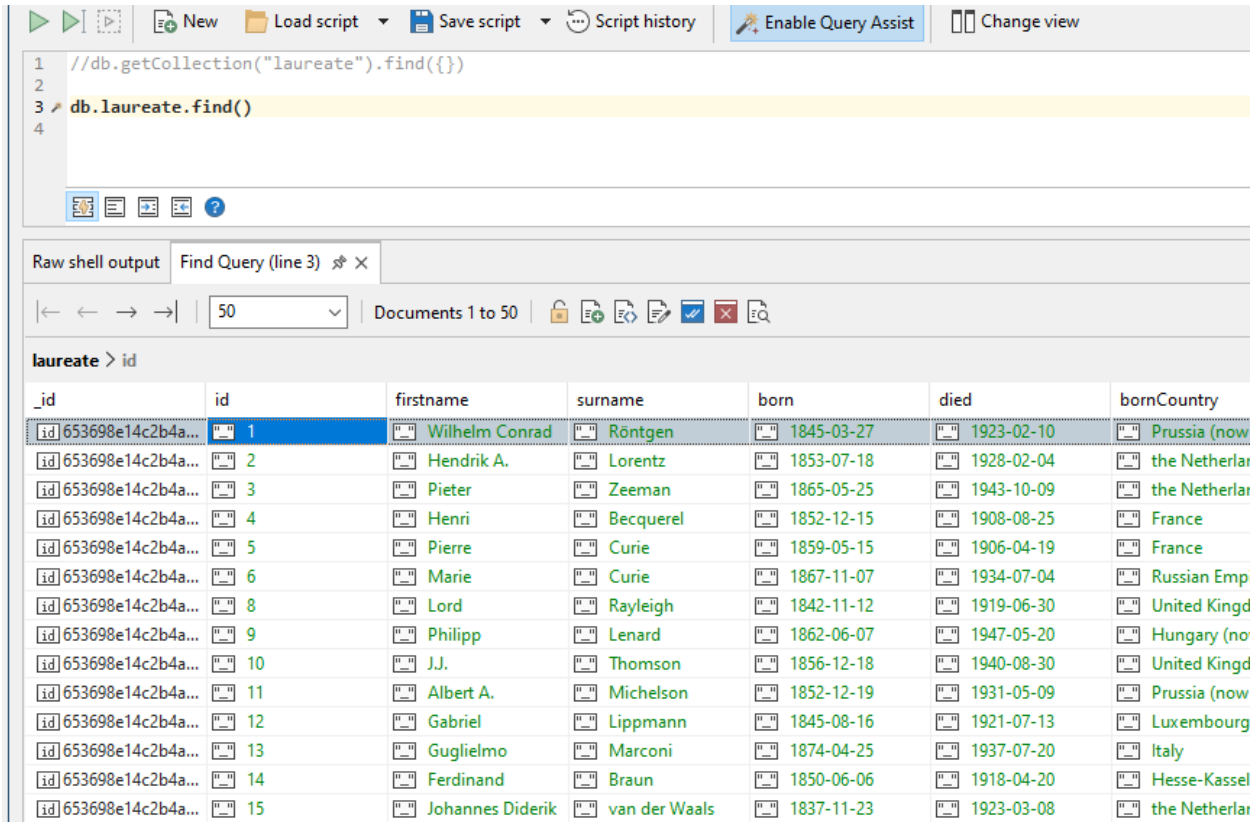
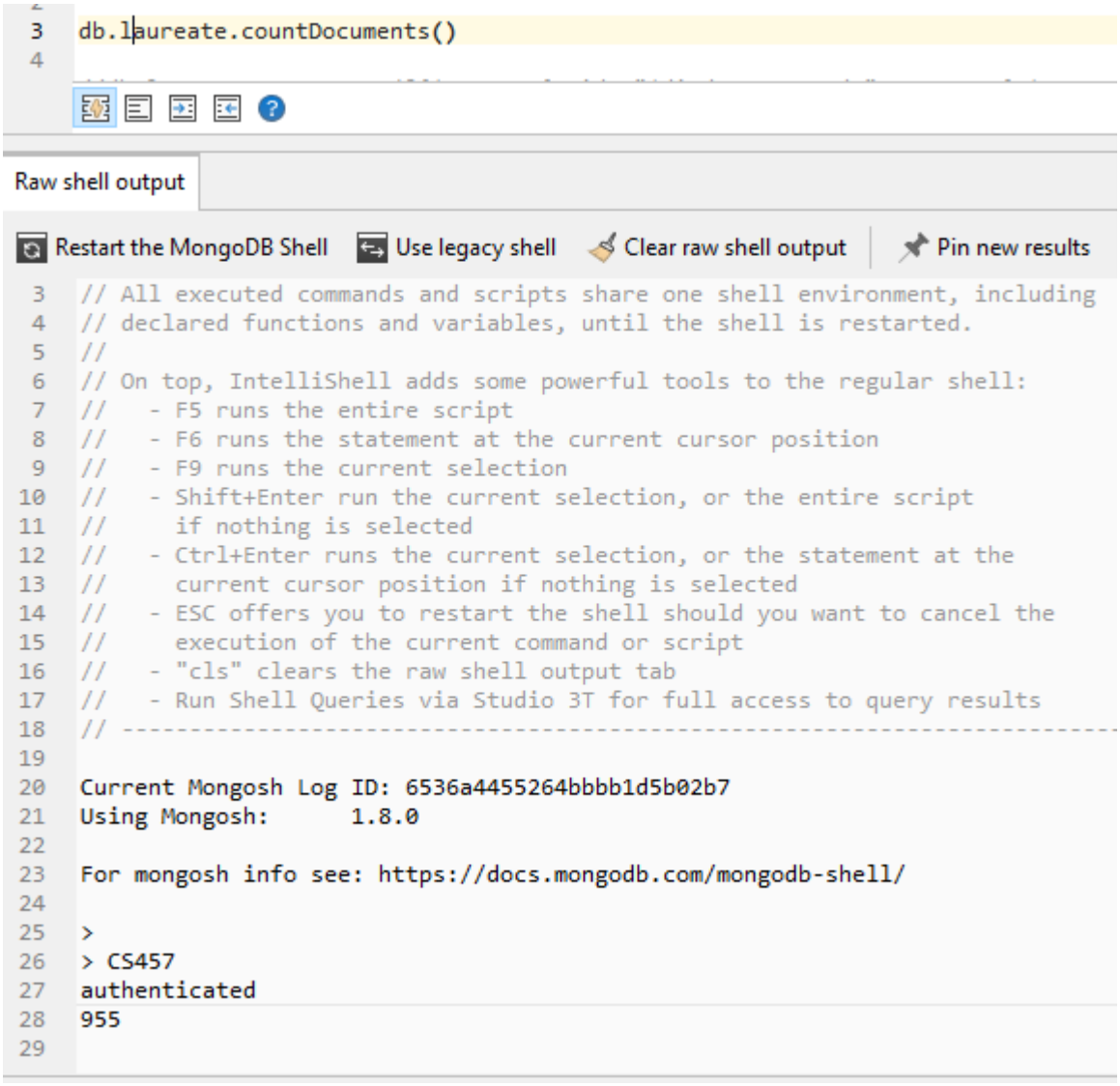
showing the data:



the count of total number of records in the collection:



The total number of records in the collection is 955.

the count of records for each diedCountryCode in descending order of count:

```
//db.laureate.find()

db.laureate.aggregate([{$group: { _id: "$diedCountryCode", count: { $sum: 1 } }},{ $sort: {count: -1} }])
```

Raw shell output | Aggregate Query (line 5)

50 | Documents 1 to 47

laureate > count

_id	count
null	335.0
US	223.0
GB	83.0
DE	59.0
FR	51.0
SE	29.0
CH	27.0
RU	15.0
IT	14.0
ES	10.0
DK	10.0
NL	10.0
NO	8.0
JP	8.0
BE	7.0

Raw shell output | Aggregate Query (line 5)

50 | Documents 1 to


```
{
    "_id" : null,
    "count" : 335.0
}
{
    "_id" : "US",
    "count" : 223.0
}
{
    "_id" : "GB",
    "count" : 83.0
}
{
    "_id" : "DE",
    "count" : 59.0
}
{
    "_id" : "FR",
    "count" : 51.0
}
{
    "_id" : "SE",
    "count" : 29.0
```


the record of death of Nobel prize winners is mostly missing.

the count of records for each prizes.category in descending order of count:

```
db.laureate.aggregate([{$group: { _id: "$prizes.category", count: { $sum: 1 } } },{ $sort: {count: -1} }])
```

Raw shell output | Aggregate Query (line 7)

50 | Documents 1 to 12

laureate > count

_id	count
[1 elements]	222.0
[1 elements]	213.0
[1 elements]	182.0
[1 elements]	129.0
[1 elements]	117.0
[1 elements]	86.0
[2 elements]	1.0
[2 elements]	1.0
[2 elements]	1.0
[2 elements]	1.0
[2 elements]	1.0
[3 elements]	1.0


```
{
    "_id" : [
        "medicine"
    ],
    "count" : 222.0
}
{
    "_id" : [
        "physics"
    ],
    "count" : 213.0
}
{
    "_id" : [
        "chemistry"
    ],
    "count" : 182.0
}
{
    "_id" : [
        "peace"
    ],
    "count" : 129.0
}
```


The category in which there are the most number of nobel prizes is medicine.

the count of records for each gender, diedCountryCode, prize.category when prize.category is "physics". Order the output by diedCountryCode:

```
db.laureate.aggregate([
{$match : {"prizes": {$elemMatch:{category :"physics"}}}} ,
{$group : { _id:["$gender", "$diedCountryCode" , "$prizes" ], count:{$sum:1} } },
{$sort: { diedCountryCode :1, _id :1
} }])
```

Raw shell output | Aggregate Query (line 9)

50 | Documents 1 to 50

laureate > count

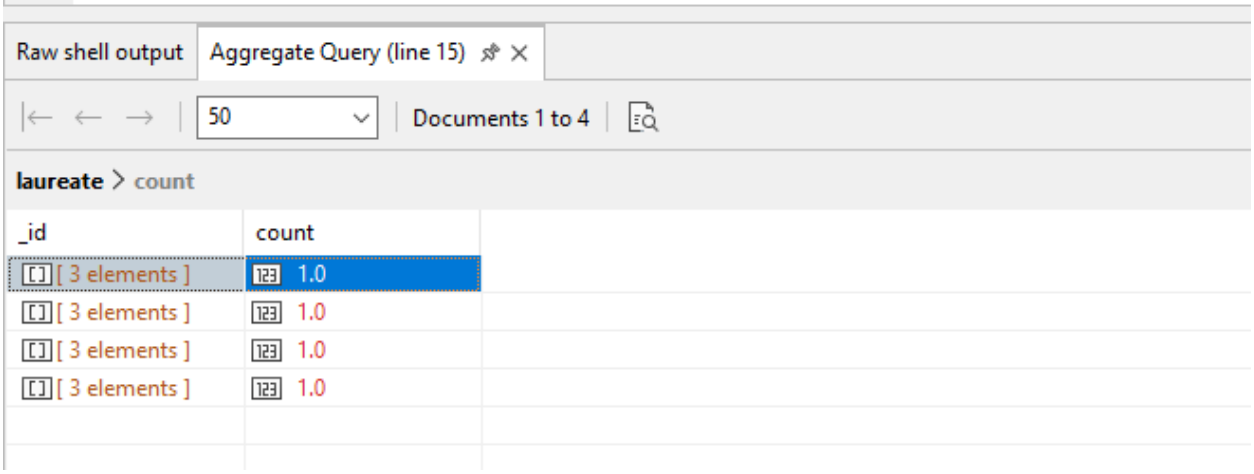
_id	count
[3 elements]	2.0
[3 elements]	1.0
[3 elements]	1.0
[3 elements]	1.0
[3 elements]	1.0
[3 elements]	1.0
[3 elements]	1.0
[3 elements]	1.0
[3 elements]	1.0
[3 elements]	1.0


```
{
    "_id" : [
        "male",
        null,
        [
            {
                "year" : "1978",
                "category" : "physics",
                "share" : "4",
                "motivation" : "\"for their discovery of cosmic microwave background radiation\"",
                "affiliations" : [
                    {
                        "name" : "Bell Laboratories",
                        "city" : "Holmdel, NJ",
                        "country" : "USA"
                    }
                ]
            }
        ]
```


There are only 2 females who won the prize in physics.

Come up with your own query to show any interesting insight. Use atleast two fields for match and two fields for group:

```
db.laureate.aggregate([
{$match : {"prizes": {$elemMatch:{category : "physics"}}, gender : "female"}},
{$group : { _id:["$gender", "$prize.category" , "$prizes" ], count:{$sum:1} } },
{$sort: { diedCountryCode :1, _id :1
} }])
```




```
{
    "_id" : [
        "female",
        null,
        [
            {
                "year" : "2018",
                "category" : "physics",
                "overallMotivation" : "\"for groundbreaking inventions in the field of laser physics\"",
                "share" : "4",
                "motivation" : "\"for their method of generating high-intensity, ultra-short optical pulses\"",
                "affiliations" : [
                    {
                        "name" : "University of Waterloo",
                        "city" : "Waterloo",
                        "country" : "Canada"
                    }
                ]
            }
        ]
```


There above query tells the female prize winners in the field of physics. With count related to their country. We can see that the female nobel prize winners are less than the male prize winners.