

Week 2

Exercise 1

Filter by Education and group by marital status to find the Average Age, Min age, Max age, Average Salary, Min Salary and max salary of these people.

```
peopledb> db.people.aggregate(  
... [  
... {$match:{Education:"Master"}},  
... {$group:{_id:"$Marital Status",  
... AverageAge:{$avg:"$Age"},  
... MinAge:{$min:"$Age"},  
... MaxAge:{$max:"$Age"},  
... AverageSalary:{$avg:"$Salary"},  
... MinSalary:{$min:"$Salary"},  
... MaxSalary:{$max:"$Salary"}  
... }  
... ]  
[  
  {  
    _id: 'Married',  
    AverageAge: 25.8,  
    MinAge: 18,  
    MaxAge: 30,  
    AverageSalary: 5227.5,  
    MinSalary: 940,  
    MaxSalary: 8483  
  },  
  {  
    _id: 'Single',  
    AverageAge: 25.333333333333332,  
    MinAge: 18,  
    MaxAge: 30,  
    AverageSalary: 3783.8,  
    MinSalary: 718,  
    MaxSalary: 8722  
  }  
]  
peopledb> █
```

Exercise 2

Find min, max, average salary of each age group by females

```

peopledb> db.people.aggregate(
... [
... {$match:{Gender:"Female"}},
... {$group:{_id:"$Age",
... AverageSalary:{$avg:"$Salary"},
... MinSalary:{$min:"$Salary"},
... MaxSalary:{$max:"$Salary"}
... }})
[
  {
    _id: 28, AverageSalary: 5491, MinSalary: 646, MaxSalary: 9219 },
    {
      _id: 26, AverageSalary: 5319.5, MinSalary: 509, MaxSalary: 9611 },
      {
        _id: 29,
        AverageSalary: 6169.222222222223,
        MinSalary: 2030,
        MaxSalary: 9913
      },
      {
        _id: 27, AverageSalary: 4720, MinSalary: 1028, MaxSalary: 9319 },
        {
          _id: 20, AverageSalary: 5154, MinSalary: 1786, MaxSalary: 8539 },
          {
            _id: 21,
            AverageSalary: 3576.777777777778,
            MinSalary: 901,
            MaxSalary: 5792
          },
          {
            _id: 18,
            AverageSalary: 5405.25,
            MinSalary: 2638,
            MaxSalary: 8631
          },
          {
            _id: 25, AverageSalary: 5401, MinSalary: 707, MaxSalary: 9771 },
            {
              _id: 22, AverageSalary: 5782, MinSalary: 3565, MaxSalary: 9925 },
              {
                _id: 24, AverageSalary: 4329, MinSalary: 2078, MaxSalary: 6921 },
                {
                  _id: 30,
                  AverageSalary: 4623.363636363636,
                  MinSalary: 619,
                  MaxSalary: 8268
                },
                {
                  _id: 19,
                  AverageSalary: 4330.909090909091,
                  MinSalary: 516,
                  MaxSalary: 9846
                },
                {
                  _id: 23,
                  AverageSalary: 4793.454545454545,
                  MinSalary: 1474,
                  MaxSalary: 8722
                }
              }
            ]
          peopledb> █

```

Exercise 3

Find min, max, average salary of each age group by males

```

peopledb> db.people.aggregate(
... [
...   {$match:{Gender:"Male"}},
...   {$group:{_id:"$Age",
...   AverageSalary:{$avg:"$Salary"},
...   MinSalary:{$min:"$Salary"},
...   MaxSalary:{$max:"$Salary"}
... }}]
[... ]])
[
{
  _id: 23,
  AverageSalary: 5848.166666666667,
  MinSalary: 1318,
  MaxSalary: 9854
},
{
  _id: 20,
  AverageSalary: 5309.333333333333,
  MinSalary: 1258,
  MaxSalary: 9587
},
{
  _id: 21,
  AverageSalary: 4426.25,
  MinSalary: 1810,
  MaxSalary: 9460
},
{
  _id: 25, AverageSalary: 4326.5, MinSalary: 2032, MaxSalary: 7667 },
{
  _id: 29, AverageSalary: 7562.5, MinSalary: 5226, MaxSalary: 9899 },
{
  _id: 27,
  AverageSalary: 5337.875,
  MinSalary: 1432,
  MaxSalary: 7548
},
{
  _id: 18,
  AverageSalary: 4804.833333333333,
  MinSalary: 940,
  MaxSalary: 7677
},
{
  _id: 19,
  AverageSalary: 5469.75,
  MinSalary: 1221,
  MaxSalary: 9543
},
{
  _id: 26, AverageSalary: 5729.5, MinSalary: 826, MaxSalary: 8380 },
{
  _id: 28, AverageSalary: 5084.9, MinSalary: 0, MaxSalary: 9989 },
{
  _id: 24, AverageSalary: 4412.4, MinSalary: 2033, MaxSalary: 8170 },
{
  _id: 22,
  AverageSalary: 4458.285714285715,
  MinSalary: 2158,
  MaxSalary: 8430
},
{
  _id: 30,
  AverageSalary: 5363.090909090909,
  MinSalary: 1260,
  MaxSalary: 9989
}
]
peopledb>

```

Exercise 4

Count Unmarried and married females and males

```

[peopledb> db.people.aggregate([{$group:{_id:{Gender:"$Gender", "Marital Status":"$Marital Status"}, Count:{$sum:1}}])
[
{ _id: { Gender: 'Male' }, Count: 1 },
{ _id: { Gender: 'Female', 'Marital Status': 'Single' }, Count: 60 },
{ _id: { Gender: 'Male', 'Marital Status': 'Married' }, Count: 50 },
{ _id: { Gender: 'Male', 'Marital Status': 'Single' }, Count: 42 },
{ _id: { Gender: 'Female', 'Marital Status': 'Married' }, Count: 48 }
]
peopledb>

```

Reflection

This week I downloaded MongoDB, MongoDB compass and MongoDB Shell. I also learned how to use MongoDB compass and MongoDB Shell, I learned how to use the \$group and \$match functions as well as how to get the min, max, avg and sum of data. I also learned how to navigate MongoDB to get into the correct collection and database.