

```
db.createCollection('employee')
db.createCollection('department')
db.createCollection('project')
```

## Inserting records into Collection Employee

```
db.employee.insertOne({
  "ssn":001,
  "name":"abhi",
  'gender':'male',
  "salary":50000,
  "depid":101,
  'qualification':['bca','mca'],
  "designation":"junior software engineer",
  "experience":5,
  "dob":"27-04-1998",
  'workson':[{ 'pno':301,'phour':5}]
});
```

```
db.employee.insertOne({
  "ssn":002,
  "name":"uday",
  'gender':'male',
  "salary":25000,
  "depid":101,
  'qualification':['bsc','mca'],
  "designation":"junior software engineer",
  "experience":3,
  "dob":"29-06-2000",
  'workson':[{ 'pno':301,'phour':1}]
});
```

```
db.employee.insertOne({
  "ssn":003,
  "name":"nirmala",
```

```
'gender':'female',
"salary":35500,
"depid":101,
'qualification':['bca','mca'],
"designation":"senior software engineer",
"experience":8,
"dob":"13-04-1995",
'workson':[{ 'pno':301,'phour':9},{ 'pno':302,'phour':3}]
});
```

```
db.employee.insertOne({
"ssn":004,
"name":"anjali",
'gender':'female',
"salary":103400,
"depid":102,
'qualification':['bsc'],
"designation":"junior software engineer",
"experience":10,
"dob":"29-06-1993",
'workson':[{ 'pno':302,'phour':6}]
});
```

```
db.employee.insertOne({
"ssn":005,
"name":"akash",
'gender':'male',
"salary":73500,
"depid":103,
'qualification':['bcs','mca'],
"designation":"senior software engineer",
"experience":9,
"dob":"11-03-1993",
'workson':[{ 'pno':301,'phour':2},{ 'pno':302,'phour':3}]
});
```

```
});
```

## Inserting records into Collection Department

```
db.department.insertOne({  
  'depid':101,  
  'depname':'finance',  
  'depmgr':001})
```

```
db.department.insertOne({  
  'depid':102,  
  'depname':'marketing',  
  'depmgr':004})
```

```
db.department.insertOne({  
  'depid':103,  
  'depname':'customer service',  
  'depmgr':005})
```

## Inserting records into Collection Project

```
db.project.insertOne({  
  'pid':301,  
  'pname':'Profit Report',  
  'depid':101,  
  'pstart':'2022-04-11',  
  'pend':'2022-05-01'})
```

```
db.project.insertOne({  
  'pid':302,  
  'pname':'Customer Satisfaction Report',  
  'depid':101,  
  'pstart':'2022-01-19'})
```

## Queries

### 1) Insert at least 5 values

### 2) Sort the employee list by ssn

Ascending : `db.employee.find().sort({"ssn":1})`

descending : `db.employee.find().sort({"ssn":-1})`

### 3) List the employee who are working in finance department

Shortcut method i.e. finding by Dep ID : `db.employee.find({"depid":101})`

### 4) Find employee who draws max salary

**Works for both when more than 2 employee have same max salary**

`var sal=db.employee.distinct("salary").sort()` //Created an ascending array of distinct salaries

`db.employee.find({"salary":{"$eq:sal[sal.length-1]}})` //From array selected max (last) value

### 5) Update the record of employee who has worked on max projects as "Employee of the Year"

```
db.employee.update({
  _id:db.employee.aggregate
  ([{$project:{count:{$size:'$workson'}}},
  {$sort: {'count':-1}}]).toArray()[0]._id,
  {$set: {'title':'Employee of the year'}}
```

### 6) Delete Employee with Minimum Experience

```
db.employee.deleteOne({
  experience:db.employee.aggregate
  ([{$group:{_id:null,
  MinExp:{$min:'$experience'}}}).toArray()[0].MinExp})
```

### Additional Queries

#### 1) Find male employee with designation senior software engineer

`db.employee.find({'$and':[{'gender':'male'},{'designation':'senior software engineer'}]})`

#### 2) Find employee who have specified qualification and qualification is MCA

`db.employee.find({'qualification':'mca'})`

### 3) Total number of employee in each department

```
db.employee.aggregate([{$group: {_id: "$depid", count: {$sum: 1}}}]])
```

### 4) Retrieve the details of female employees whose salary is greater than average salary of all the employees working in finance department

```
db.employee.find({
  $and: [{'gender': 'female'},
  {'salary': {$gt: db.employee.aggregate([{$match: {'depid': 101}}, {$group: {_id: '$depid', avg: {$avg: '$salary'}}}]}.toArray()[0].avg}}]
})
```