ASSIGNMENT 8

```
test> use PCCOE;
switched to db PCCOE
```

// 2. Create Collections (Teachers and Students) and Insert Documents
// Insert teachers into the Teachers collection

```
PCCOE> db.Teachers.insertMany([
...   {
...     Tname: "Praveen",
...     dno: 101,
...     dname: "Computer",
...     experience: 5,
...     salary: 15000,
...     date_of_joining: new Date("2018-01-15")
...   },
...   {
...     Tname: "Sita",
...     dno: 102,
...     dname: "IT",
...     experience: 3,
...     salary: 12000,
...     date_of_joining: new Date("2019-03-10")
...   },
...   {
...     Tname: "Ravi",
...     dno: 103,
...     dname: "E&TC",
...     experience: 7,
...     salary: 18000,
...     date_of_joining: new Date("2015-06-25")
...   },
...   {
...     Tname: "Anjali",
...     dno: 101,
...     dname: "Computer",
...     experience: 4,
...     salary: 11000,
...     date_of_joining: new Date("2017-08-20")
...   }
... ]);
{
  acknowledged: true,
  insertedIds: {
    '0': ObjectId('67eecc1d862eba0897b71236'),
    '1': ObjectId('67eecc1d862eba0897b71237'),
    '2': ObjectId('67eecc1d862eba0897b71238'),
```

```
      '3': ObjectId('67eecc1d862eba0897b71239')
    }
  }
PCCOE> db.Students.insertMany([
...   { Sname: "Amit", roll_no: 1, class: "CS" },
...   { Sname: "Suresh", roll_no: 2, class: "IT" },
...   { Sname: "Xyz", roll_no: 3, class: "E&TC" }
... ]);
{
  acknowledged: true,
  insertedIds: {
    '0': ObjectId('67eecc26862eba0897b7123a'),
    '1': ObjectId('67eecc26862eba0897b7123b'),
    '2': ObjectId('67eecc26862eba0897b7123c')
  }
}
// Find the information about all teachers
PCCOE> db.Teachers.find();
[
  {
    _id: ObjectId('67eecc1d862eba0897b71236'),
    Tname: 'Praveen',
    dno: 101,
    dname: 'Computer',
    experience: 5,
    salary: 15000,
    date_of_joining: ISODate('2018-01-15T00:00:00.000Z')
  },
  {
    _id: ObjectId('67eecc1d862eba0897b71237'),
    Tname: 'Sita',
    dno: 102,
    dname: 'IT',
    experience: 3,
    salary: 12000,
    date_of_joining: ISODate('2019-03-10T00:00:00.000Z')
  },
  {
    _id: ObjectId('67eecc1d862eba0897b71238'),
    Tname: 'Ravi',
    dno: 103,
    dname: 'E&TC',
    experience: 7,
    salary: 18000,
    date_of_joining: ISODate('2015-06-25T00:00:00.000Z')
  },
```

```
  {
    _id: ObjectId('67eecc1d862eba0897b71239'),
    Tname: 'Anjali',
    dno: 101,
    dname: 'Computer',
    experience: 4,
    salary: 11000,
    date_of_joining:  ISODate('2017-08-20T00:00:00.000Z')
  }
]
```

// Find the information about all teachers of the computer department
```
PCCOE> db.Teachers.find({ dname: "Computer" }).pretty();
[
  {
    _id: ObjectId('67eecc1d862eba0897b71236'),
    Tname: 'Praveen',
    dno: 101,
    dname: 'Computer',
    experience: 5,
    salary: 15000,
    date_of_joining:  ISODate('2018-01-15T00:00:00.000Z')
  },
  {
    _id: ObjectId('67eecc1d862eba0897b71239'),
    Tname: 'Anjali',
    dno: 101,
    dname: 'Computer',
    experience: 4,
    salary: 11000,
    date_of_joining:  ISODate('2017-08-20T00:00:00.000Z')
  }
]
```

// Find the information about all teachers of computer, IT, and E&TC departments
```
PCCOE> db.Teachers.find({ dname: { $in: ["Computer", "IT", "E&TC"] } }).pretty();
[
  {
    _id: ObjectId('67eecc1d862eba0897b71236'),
    Tname: 'Praveen',
    dno: 101,
    dname: 'Computer',
    experience: 5,
    salary: 15000,
    date_of_joining:  ISODate('2018-01-15T00:00:00.000Z')
  },
  {
    _id: ObjectId('67eecc1d862eba0897b71237'),
```

```
     Tname: 'Sita',
     dno: 102,
     dname: 'IT',
     experience: 3,
     salary: 12000,
     date_of_joining:  ISODate('2019-03-10T00:00:00.000Z')
   },
   {
    _id: ObjectId('67eecc1d862eba0897b71238'),
    Tname: 'Ravi',
    dno: 103,
    dname: 'E&TC',
    experience: 7,
    salary: 18000,
    date_of_joining:  ISODate('2015-06-25T00:00:00.000Z')
   },
   {
    _id: ObjectId('67eecc1d862eba0897b71239'),
    Tname: 'Anjali',
    dno: 101,
    dname: 'Computer',
    experience: 4,
    salary: 11000,
    date_of_joining:  ISODate('2017-08-20T00:00:00.000Z')
   }
]
```

// Find the information about all teachers of computer, IT, and E&TC departments with salary ≥ 10000

```
PCCOE> db.Teachers.find({
...   dname: { $in: ["Computer", "IT", "E&TC"] },
...   salary: { $gte: 10000 }
... }).pretty();
[
  {
    _id: ObjectId('67eecc1d862eba0897b71236'),
    Tname: 'Praveen',
    dno: 101,
    dname: 'Computer',
    experience: 5,
    salary: 15000,
    date_of_joining:  ISODate('2018-01-15T00:00:00.000Z')
   },
   {
    _id: ObjectId('67eecc1d862eba0897b71237'),
    Tname: 'Sita',
    dno: 102,
```

```
    dname: 'IT',
    experience: 3,
    salary: 12000,
    date_of_joining:  ISODate('2019-03-10T00:00:00.000Z')
  },
  {
    _id: ObjectId('67eecc1d862eba0897b71238'),
    Tname: 'Ravi',
    dno: 103,
    dname: 'E&TC',
    experience: 7,
    salary: 18000,
    date_of_joining:  ISODate('2015-06-25T00:00:00.000Z')
  },
  {
    _id: ObjectId('67eecc1d862eba0897b71239'),
    Tname: 'Anjali',
    dno: 101,
    dname: 'Computer',
    experience: 4,
    salary: 11000,
    date_of_joining:  ISODate('2017-08-20T00:00:00.000Z')
  }
]
```

// Find the student information with roll_no = 2 or Sname = "Xyz"

```
PCCOE> db.Students.find({
...    $or: [{ roll_no: 2 }, { Sname: "Xyz" }]
... }).pretty();
[
  {
    _id: ObjectId('67eecc26862eba0897b7123b'),
    Sname: 'Suresh',
    roll_no: 2,
    class: 'IT'
  },
  {
    _id: ObjectId('67eecc26862eba0897b7123c'),
    Sname: 'Xyz',
    roll_no: 3,
    class: 'E&TC'
  }
]
```

// Update the experience of teacher 'Praveen' to 10 years. If the entry is not available, insert it.

```
PCCOE> db.Teachers.updateOne(
```

```
...   { Tname: "Praveen" },
...   { $set: { experience: 10 } },
...   { upsert: true }
... );
{
 acknowledged: true,
 insertedId: null,
 matchedCount: 1,
 modifiedCount: 1,
 upsertedCount: 0
}
```

// Update the department of all teachers in the IT department to "COMP"

```
PCCOE> db.Teachers.updateMany(
...   { dname: "IT" },
...   { $set: { dname: "COMP" } }
... );
...
{
 acknowledged: true,
 insertedId: null,
 matchedCount: 1,
 modifiedCount: 1,
 upsertedCount: 0
}
PCCOE> db.Teachers.find();
[
  {
    _id: ObjectId('67eecc1d862eba0897b71236'),
    Tname: 'Praveen',
    dno: 101,
    dname: 'Computer',
    experience: 10,
    salary: 15000,
    date_of_joining:  ISODate('2018-01-15T00:00:00.000Z')
  },
  {
    _id: ObjectId('67eecc1d862eba0897b71237'),
    Tname: 'Sita',
    dno: 102,
    dname: 'COMP',
    experience: 3,
    salary: 12000,
    date_of_joining:  ISODate('2019-03-10T00:00:00.000Z')
  },
  {
    _id: ObjectId('67eecc1d862eba0897b71238'),
```

```
    Tname: 'Ravi',
    dno: 103,
    dname: 'E&TC',
    experience: 7,
    salary: 18000,
    date_of_joining:  ISODate('2015-06-25T00:00:00.000Z')
  },
  {
    _id: ObjectId('67eecc1d862eba0897b71239'),
    Tname: 'Anjali',
    dno: 101,
    dname: 'Computer',
    experience: 4,
    salary: 11000,
    date_of_joining:  ISODate('2017-08-20T00:00:00.000Z')
  }
]
```

// Find the teacher's name and their experience from the Teachers collection

```
PCCOE> db.Teachers.find({}, { Tname: 1, experience: 1 }).pretty();
[
  {
    _id: ObjectId('67eecc1d862eba0897b71236'),
    Tname: 'Praveen',
    experience: 10
  },
  {
    _id: ObjectId('67eecc1d862eba0897b71237'),
    Tname: 'Sita',
    experience: 3
  },
  {
    _id: ObjectId('67eecc1d862eba0897b71238'),
    Tname: 'Ravi',
    experience: 7
  },
  {
    _id: ObjectId('67eecc1d862eba0897b71239'),
    Tname: 'Anjali',
    experience: 4
  }
]
PCCOE> db.Department.save({ dname: "Mechanical", location: "Building A" });
TypeError: db.Department.save is not a function
```

Delete all documents from the teachers collection with the IT department

```
PCCOE> db.Teachers.deleteMany({ dname: "IT" });
```

```
{ acknowledged: true, deletedCount: 0 }
PCCOE> db.Teachers.find();
[
  {
    _id: ObjectId('67eecc1d862eba0897b71236'),
    Tname: 'Praveen',
    dno: 101,
    dname: 'Computer',
    experience: 10,
    salary: 15000,
    date_of_joining: ISODate('2018-01-15T00:00:00.000Z')
  },
  {
    _id: ObjectId('67eecc1d862eba0897b71237'),
    Tname: 'Sita',
    dno: 102,
    dname: 'COMP',
    experience: 3,
    salary: 12000,
    date_of_joining: ISODate('2019-03-10T00:00:00.000Z')
  },
  {
    _id: ObjectId('67eecc1d862eba0897b71238'),
    Tname: 'Ravi',
    dno: 103,
    dname: 'E&TC',
    experience: 7,
    salary: 18000,
    date_of_joining: ISODate('2015-06-25T00:00:00.000Z')
  },
  {
    _id: ObjectId('67eecc1d862eba0897b71239'),
    Tname: 'Anjali',
    dno: 101,
    dname: 'Computer',
    experience: 4,
    salary: 11000,
    date_of_joining: ISODate('2017-08-20T00:00:00.000Z')
  }
]
// Display the first 3 documents in the teachers collection in ascending order with
pretty() method
PCCOE> db.Teachers.find().sort({ Tname: 1 }).limit(3).pretty();
[
  {
    _id: ObjectId('67eecc1d862eba0897b71239'),
```

```
  Tname: 'Anjali',
  dno: 101,
  dname: 'Computer',
  experience: 4,
  salary: 11000,
  date_of_joining:  ISODate('2017-08-20T00:00:00.000Z')
},
{
  _id: ObjectId('67eecc1d862eba0897b71236'),
  Tname: 'Praveen',
  dno: 101,
  dname: 'Computer',
  experience: 10,
  salary: 15000,
  date_of_joining:  ISODate('2018-01-15T00:00:00.000Z')
},
{
  _id: ObjectId('67eecc1d862eba0897b71238'),
  Tname: 'Ravi',
  dno: 103,
  dname: 'E&TC',
  experience: 7,
  salary: 18000,
  date_of_joining:  ISODate('2015-06-25T00:00:00.000Z')
```