

Lab Sheet 6: MongoDB Basic commands

Branch/ Class: B.Tech/M.Tech

Date:

Faculty Name: Prof. S.Gopikrishnan

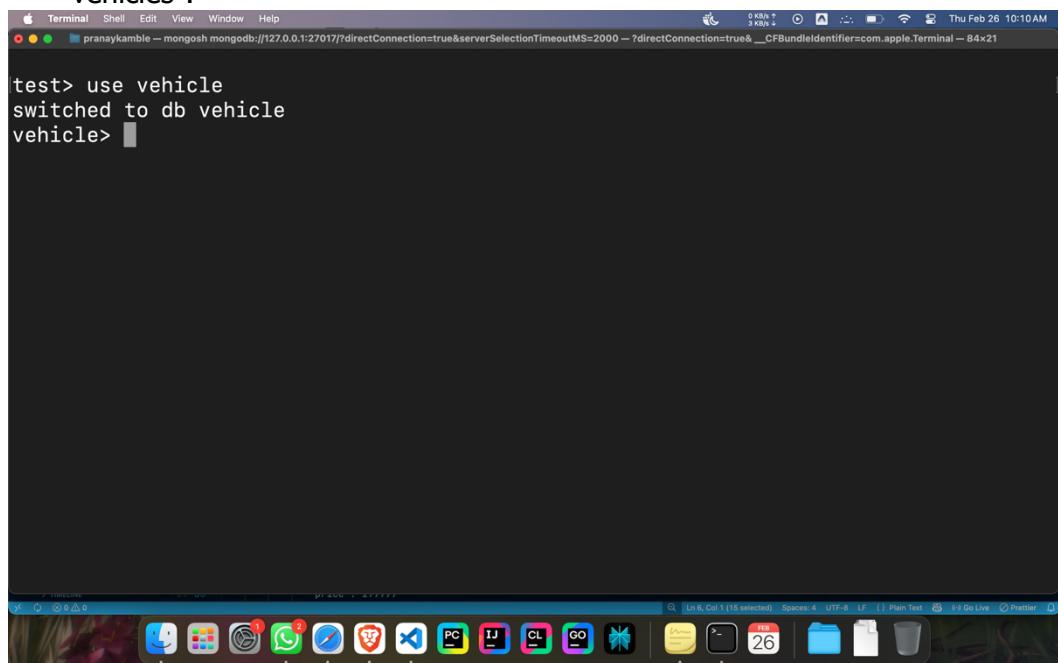
School: SCOPE

Student name:

Reg. no.:

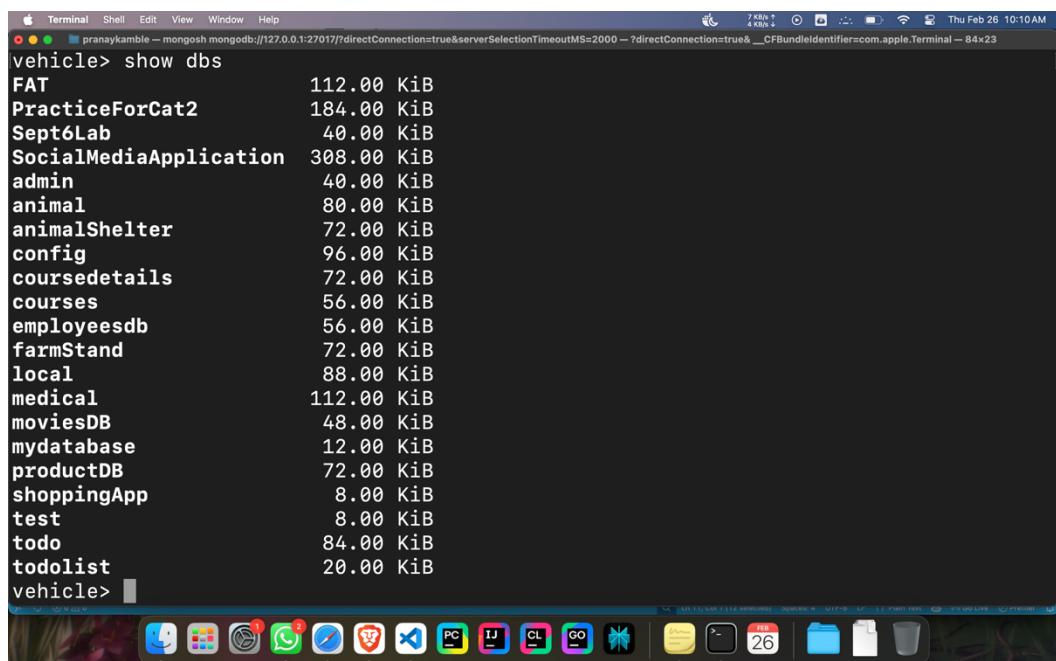
1. Use MongoDB to implement the following DB operations

1. Create a database called ‘vehicles’ and *write* a MongoDB query to select database as “vehicles”.



```
test> use vehicle
switched to db vehicle
vehicle>
```

2. Write a MongoDB query to display all the databases.



```
vehicle> show dbs
FAT 112.00 KiB
PracticeForCat2 184.00 KiB
Sept6Lab 40.00 KiB
SocialMediaApplication 308.00 KiB
admin 40.00 KiB
animal 80.00 KiB
animalShelter 72.00 KiB
config 96.00 KiB
coursedetails 72.00 KiB
courses 56.00 KiB
employeesdb 56.00 KiB
farmStand 72.00 KiB
local 88.00 KiB
medical 112.00 KiB
moviesDB 48.00 KiB
mydatabase 12.00 KiB
productDB 72.00 KiB
shoppingApp 8.00 KiB
test 8.00 KiB
todo 84.00 KiB
todolist 20.00 KiB
vehicle>
```

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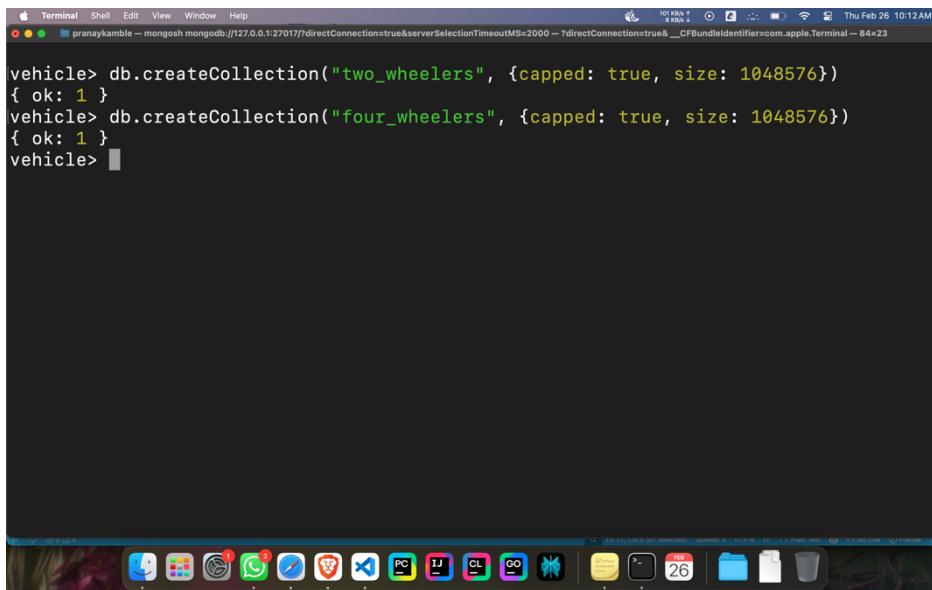
Faculty Name: Prof. S.Gopikrishnan

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Reg. no.:

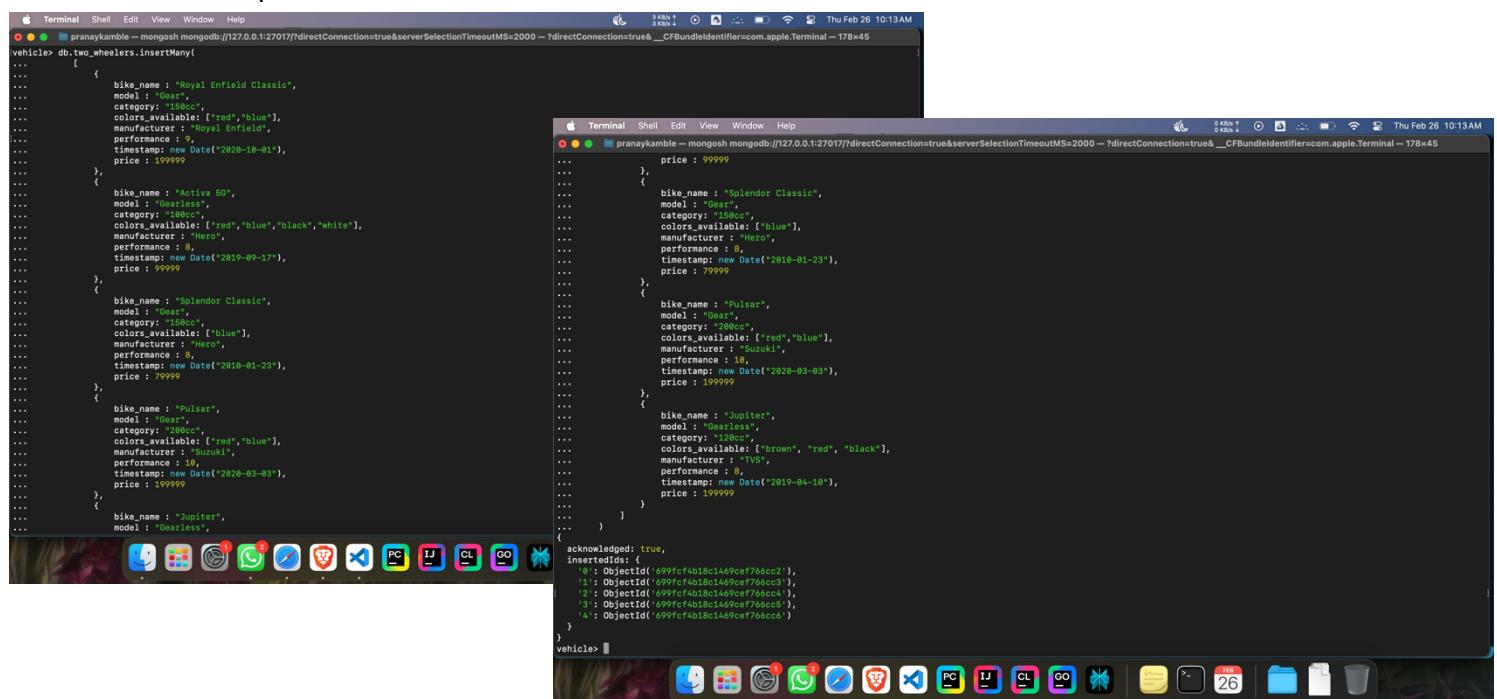
3. Create a collection called 'two_wheelers'. (use capping) and Create a collection called 'four_wheelers'.



```
Terminal Shell Edit View Window Help
pranaykamble - mongosh mongodb://127.0.0.1:27017/?directConnection=true&serverSelectionTimeoutMS=2000 -- ?directConnection=true&__CFBundleIdentifier=com.apple.Terminal — 84x23

vehicle> db.createCollection("two_wHEELERS", {capped: true, size: 1048576})
{ ok: 1 }
vehicle> db.createCollection("four_wHEELERS", {capped: true, size: 1048576})
{ ok: 1 }
vehicle> █
```

4. Add 5 two-wheeler details to the collection named 'two_wheelers'. Each document consists of following fields as bike_name, model (gear or gearless), category (100cc, 125cc, 150cc, 200cc), colors_available (red, black, blue, sport red etc) as array, manufacturer, performance (out of 10), timestamp (date and year release) and price.



```
Terminal Shell Edit View Window Help
pranaykamble - mongosh mongodb://127.0.0.1:27017/?directConnection=true&serverSelectionTimeoutMS=2000 -- ?directConnection=true&__CFBundleIdentifier=com.apple.Terminal — 176x45

vehicle> db.two_wHEELERS.insertMany([
...   {
...     bike_name : "Royal Enfield Classic",
...     model : "Gear",
...     category: "100cc",
...     colors_available: ["red","blue"],
...     manufacturer : "Royal Enfield",
...     performance : 9,
...     timestamp: new Date("2020-10-01"),
...     price : 19999
...   },
...   {
...     bike_name : "Activa 6G",
...     model : "Gearless",
...     category: "100cc",
...     colors_available: ["red","blue","black","white"],
...     manufacturer : "Hero",
...     performance : 8,
...     timestamp: new Date("2019-09-17"),
...     price : 9999
...   },
...   {
...     bike_name : "Splendor Classic",
...     model : "Gear",
...     category: "150cc",
...     colors_available: ["blue"],
...     manufacturer : "Hero",
...     performance : 8,
...     timestamp: new Date("2010-01-23"),
...     price : 7999
...   },
...   {
...     bike_name : "Pulsar",
...     model : "Gear",
...     category: "200cc",
...     colors_available: ["red","blue"],
...     manufacturer : "Suzuki",
...     performance : 10,
...     timestamp: new Date("2020-03-03"),
...     price : 19999
...   },
...   {
...     bike_name : "Jupiter",
...     model : "Gearless",
...     category: "125cc",
...     colors_available: ["brown", "red", "black"],
...     manufacturer : "TVS",
...     performance : 8,
...     timestamp: new Date("2019-04-10"),
...     price : 19999
...   }
... ],
... {
...   acknowledged: true,
...   insertedIds: [
...     ObjectId('699fcfa4b18c1469cef766cc2'),
...     ObjectId('699fcfa4b18c1469cef766cc3'),
...     ObjectId('699fcfa4b18c1469cef766cc4'),
...     ObjectId('699fcfa4b18c1469cef766cc5'),
...     ObjectId('699fcfa4b18c1469cef766cc6')
...   ]
... }
)
vehicle> █
```

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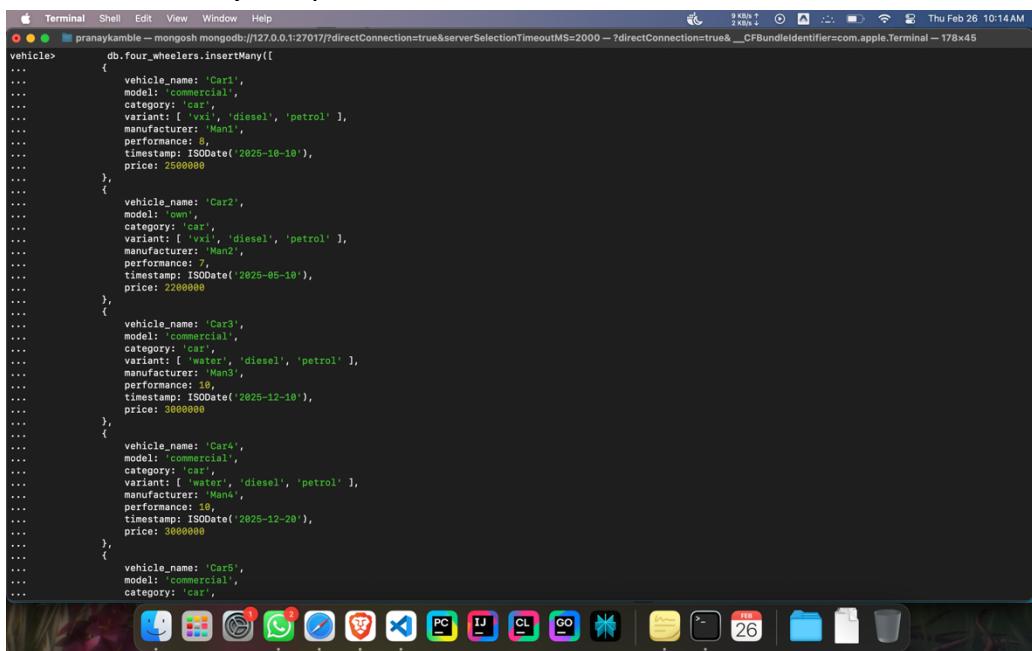
Faculty Name: Prof. S.Gopikrishnan

School: SCOPE

Student name:

Reg. no.:

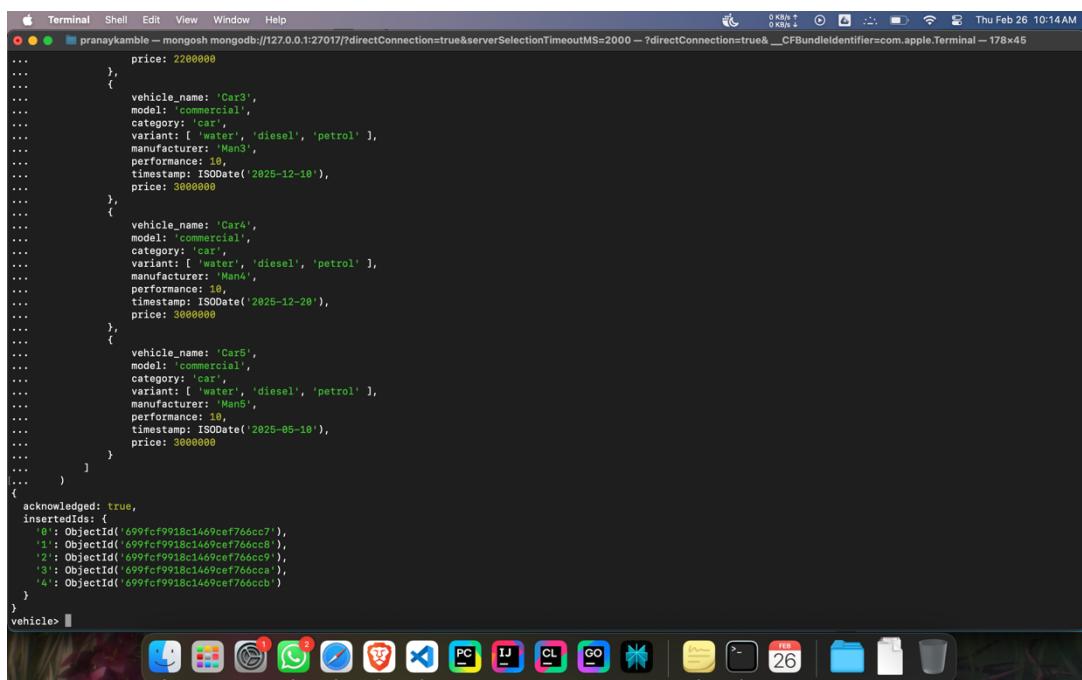
5. Add 5 four-wheeler details to the collection named 'four_wheelers'. Each document consists of following fields as vehicle_name, model (commercial or own), category (car, lorry, bus, mini truck, heavy truck, containers), variants (vxi, zxi, petrol, diesel etc) as array, manufacturer, performance (out of 10), timestamp (date and year release) and price.



```

Terminal Shell Edit View Window Help
pranaykamble -> mongosh mongodb://127.0.0.1:27017/?directConnection=true&serverSelectionTimeoutMS=2000 --directConnection=true&__CFBundleIdentifier=com.apple.Terminal - 178x45
vehicle> db.four_wheelers.insertMany([
...   {
...     vehicle_name: 'Car1',
...     model: 'commercial',
...     category: 'car',
...     variant: [ 'vxi', 'diesel', 'petrol' ],
...     manufacturer: 'Man1',
...     performance: 8,
...     timestamp: ISODate('2025-10-10'),
...     price: 2500000
...   },
...   {
...     vehicle_name: 'Car2',
...     model: 'own',
...     category: 'car',
...     variant: [ 'vxi', 'diesel', 'petrol' ],
...     manufacturer: 'Man2',
...     performance: 7,
...     timestamp: ISODate('2025-05-10'),
...     price: 2200000
...   },
...   {
...     vehicle_name: 'Car3',
...     model: 'commercial',
...     category: 'car',
...     variant: [ 'water', 'diesel', 'petrol' ],
...     manufacturer: 'Man3',
...     performance: 10,
...     timestamp: ISODate('2025-12-10'),
...     price: 3000000
...   },
...   {
...     vehicle_name: 'Car4',
...     model: 'commercial',
...     category: 'car',
...     variant: [ 'water', 'diesel', 'petrol' ],
...     manufacturer: 'Man4',
...     performance: 10,
...     timestamp: ISODate('2025-12-20'),
...     price: 3000000
...   },
...   {
...     vehicle_name: 'Car5',
...     model: 'commercial',
...     category: 'car',
...     variant: [ 'water', 'diesel', 'petrol' ],
...     manufacturer: 'Man5',
...     performance: 10,
...     timestamp: ISODate('2025-05-10'),
...     price: 3000000
...   }
... ])

```



```

Terminal Shell Edit View Window Help
pranaykamble -> mongosh mongodb://127.0.0.1:27017/?directConnection=true&serverSelectionTimeoutMS=2000 --directConnection=true&__CFBundleIdentifier=com.apple.Terminal - 178x45
...
{
  vehicle_name: 'Car1',
  model: 'commercial',
  category: 'car',
  variant: [ 'vxi', 'diesel', 'petrol' ],
  manufacturer: 'Man1',
  performance: 8,
  timestamp: ISODate('2025-10-10'),
  price: 2500000
},
{
  vehicle_name: 'Car2',
  model: 'own',
  category: 'car',
  variant: [ 'vxi', 'diesel', 'petrol' ],
  manufacturer: 'Man2',
  performance: 7,
  timestamp: ISODate('2025-05-10'),
  price: 2200000
},
{
  vehicle_name: 'Car3',
  model: 'commercial',
  category: 'car',
  variant: [ 'water', 'diesel', 'petrol' ],
  manufacturer: 'Man3',
  performance: 10,
  timestamp: ISODate('2025-12-10'),
  price: 3000000
},
{
  vehicle_name: 'Car4',
  model: 'commercial',
  category: 'car',
  variant: [ 'water', 'diesel', 'petrol' ],
  manufacturer: 'Man4',
  performance: 10,
  timestamp: ISODate('2025-12-20'),
  price: 3000000
},
{
  vehicle_name: 'Car5',
  model: 'commercial',
  category: 'car',
  variant: [ 'water', 'diesel', 'petrol' ],
  manufacturer: 'Man5',
  performance: 10,
  timestamp: ISODate('2025-05-10'),
  price: 3000000
}
]
{
  acknowledged: true,
  insertedIds: [
    '0': ObjectId('699fcf9918c1469cef766cc7'),
    '1': ObjectId('699fcf9918c1469cef766cc8'),
    '2': ObjectId('699fcf9918c1469cef766cc9'),
    '3': ObjectId('699fcf9918c1469cef766cca'),
    '4': ObjectId('699fcf9918c1469cef766ccb')
  ]
}
vehicle>

```

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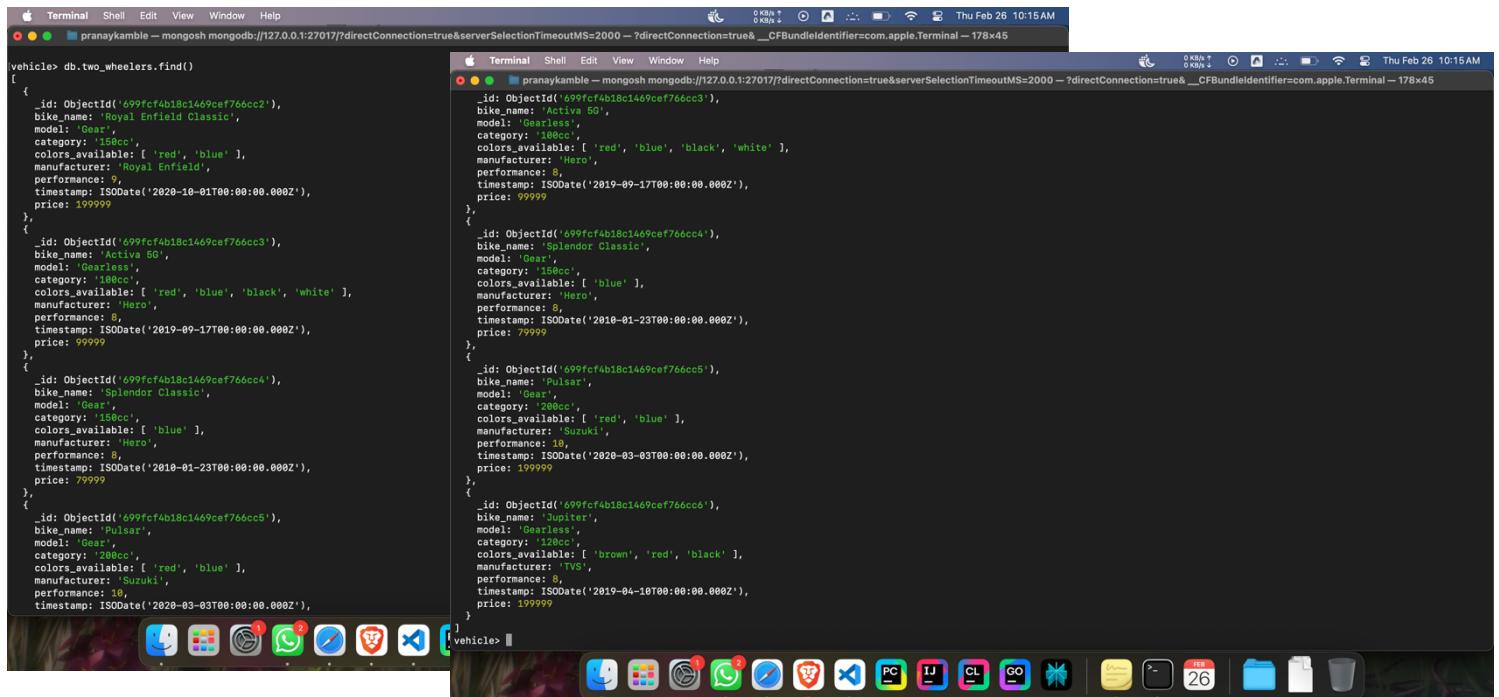
Student name:

Date:

School: SCOPE

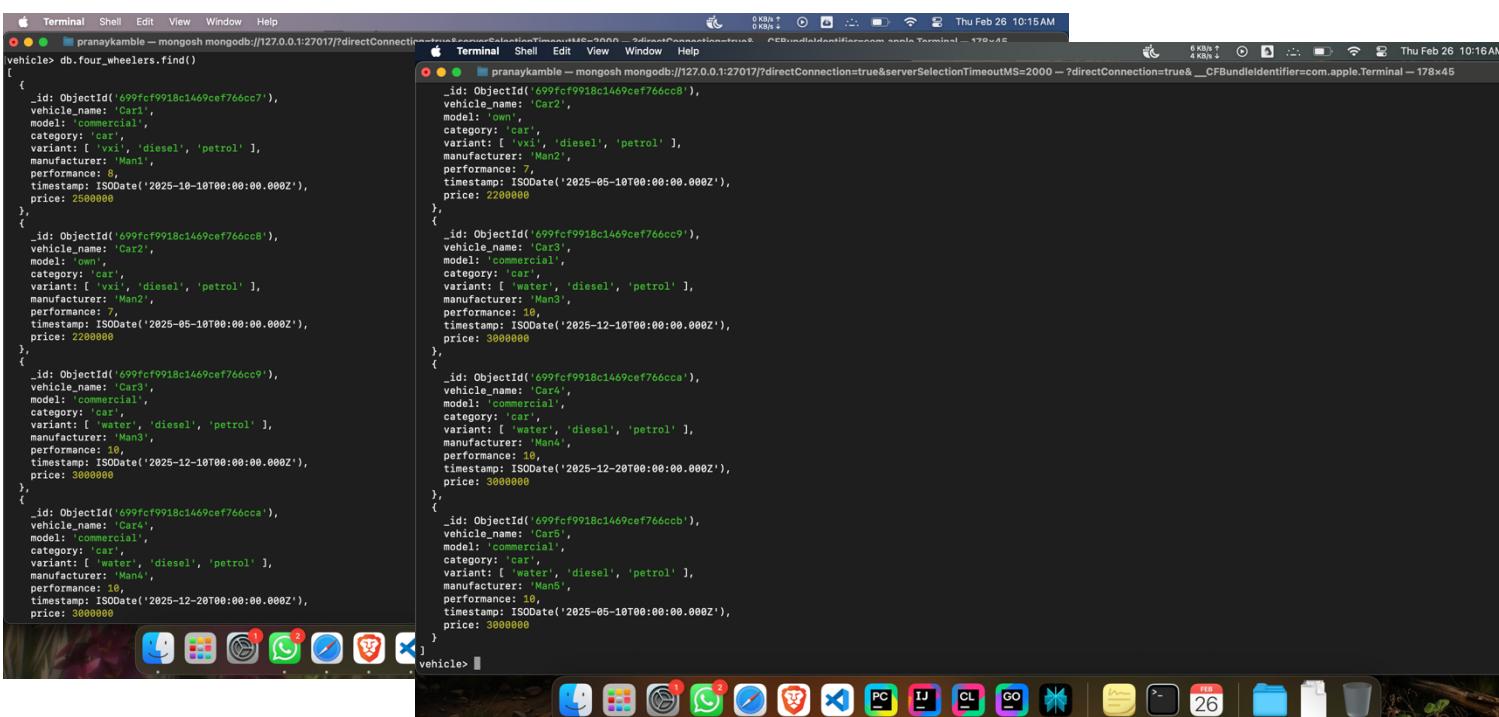
Reg. no.:

6. Write a MongoDB query to display all documents available in two_wheelers and four_wheelers.



```
Terminal Shell Edit View Window Help
pranaykamble - mongosh mongoDB://127.0.0.1:27017/?directConnection=true&serverSelectionTimeoutMS=2000 - ?directConnection=true&__CFBundleIdentifier=com.apple.Terminal - 178x45
vehicle db.two_wHEELERS.find()
[
  {
    _id: ObjectId('699fcf4b18c1469cef766cc3'),
    bike_name: 'Royal Enfield Classic',
    model: 'Gear',
    category: '180cc',
    colors_available: [ 'red', 'blue' ],
    manufacturer: 'Royal Enfield',
    performance: 9,
    timestamp: ISODate('2020-10-01T00:00:00.000Z'),
    price: 19999
  },
  {
    _id: ObjectId('699fcf4b18c1469cef766cc4'),
    bike_name: 'Activa 5G',
    model: 'Gearless',
    category: '180cc',
    colors_available: [ 'red', 'blue', 'black', 'white' ],
    manufacturer: 'Hero',
    performance: 8,
    timestamp: ISODate('2019-09-17T00:00:00.000Z'),
    price: 9999
  },
  {
    _id: ObjectId('699fcf4b18c1469cef766cc5'),
    bike_name: 'Splendor Classic',
    model: 'Gear',
    category: '180cc',
    colors_available: [ 'red', 'blue', 'black', 'white' ],
    manufacturer: 'Hero',
    performance: 8,
    timestamp: ISODate('2019-09-17T00:00:00.000Z'),
    price: 9999
  },
  {
    _id: ObjectId('699fcf4b18c1469cef766cc6'),
    bike_name: 'Pulsar',
    model: 'Gear',
    category: '200cc',
    colors_available: [ 'red', 'blue' ],
    manufacturer: 'Suzuki',
    performance: 10,
    timestamp: ISODate('2020-03-03T00:00:00.000Z'),
    price: 19999
  },
  {
    _id: ObjectId('699fcf4b18c1469cef766cc7'),
    bike_name: 'Jupiter',
    model: 'Gearless',
    category: '200cc',
    colors_available: [ 'brown', 'red', 'black' ],
    manufacturer: 'TVS',
    performance: 8,
    timestamp: ISODate('2019-04-10T00:00:00.000Z'),
    price: 19999
  }
]
Vehicle> |
```

```
Terminal Shell Edit View Window Help
pranaykamble - mongosh mongoDB://127.0.0.1:27017/?directConnection=true&serverSelectionTimeoutMS=2000 - ?directConnection=true&__CFBundleIdentifier=com.apple.Terminal - 178x45
vehicle db.four_wHEELERS.find()
[
  {
    _id: ObjectId('699fcf9918c1469cef766cc8'),
    vehicle_name: 'Car2',
    model: 'own',
    category: 'car',
    variant: [ 'vxi', 'diesel', 'petrol' ],
    manufacturer: 'Man1',
    performance: 8,
    timestamp: ISODate('2025-10-10T00:00:00.000Z'),
    price: 250000
  },
  {
    _id: ObjectId('699fcf9918c1469cef766cc9'),
    vehicle_name: 'Car2',
    model: 'own',
    category: 'car',
    variant: [ 'vxi', 'diesel', 'petrol' ],
    manufacturer: 'Man2',
    performance: 7,
    timestamp: ISODate('2025-05-10T00:00:00.000Z'),
    price: 220000
  },
  {
    _id: ObjectId('699fcf9918c1469cef766cc9'),
    vehicle_name: 'Car3',
    model: 'commercial',
    category: 'car',
    variant: [ 'water', 'diesel', 'petrol' ],
    manufacturer: 'Man3',
    performance: 10,
    timestamp: ISODate('2025-12-10T00:00:00.000Z'),
    price: 300000
  },
  {
    _id: ObjectId('699fcf9918c1469cef766cc9'),
    vehicle_name: 'Car4',
    model: 'commercial',
    category: 'car',
    variant: [ 'water', 'diesel', 'petrol' ],
    manufacturer: 'Man4',
    performance: 10,
    timestamp: ISODate('2025-12-20T00:00:00.000Z'),
    price: 300000
  },
  {
    _id: ObjectId('699fcf9918c1469cef766cc9'),
    vehicle_name: 'Car5',
    model: 'commercial',
    category: 'car',
    variant: [ 'water', 'diesel', 'petrol' ],
    manufacturer: 'Man5',
    performance: 10,
    timestamp: ISODate('2025-05-10T00:00:00.000Z'),
    price: 300000
  }
]
Vehicle> |
```



```
Terminal Shell Edit View Window Help
pranaykamble - mongosh mongoDB://127.0.0.1:27017/?directConnection=true&serverSelectionTimeoutMS=2000 - ?directConnection=true&__CFBundleIdentifier=com.apple.Terminal - 470x56
vehicle db.two_wHEELERS.find()
[
  {
    _id: ObjectId('699fcf4b18c1469cef766cc3'),
    bike_name: 'Royal Enfield Classic',
    model: 'Gearless',
    category: '180cc',
    colors_available: [ 'red', 'blue', 'black', 'white' ],
    manufacturer: 'Royal Enfield',
    performance: 8,
    timestamp: ISODate('2019-09-17T00:00:00.000Z'),
    price: 9999
  },
  {
    _id: ObjectId('699fcf4b18c1469cef766cc4'),
    bike_name: 'Activa 5G',
    model: 'Gear',
    category: '180cc',
    colors_available: [ 'blue' ],
    manufacturer: 'Hero',
    performance: 8,
    timestamp: ISODate('2019-01-23T00:00:00.000Z'),
    price: 7999
  },
  {
    _id: ObjectId('699fcf4b18c1469cef766cc5'),
    bike_name: 'Splendor Classic',
    model: 'Gear',
    category: '180cc',
    colors_available: [ 'red', 'blue', 'black', 'white' ],
    manufacturer: 'Hero',
    performance: 8,
    timestamp: ISODate('2020-03-03T00:00:00.000Z'),
    price: 7999
  },
  {
    _id: ObjectId('699fcf4b18c1469cef766cc6'),
    bike_name: 'Pulsar',
    model: 'Gear',
    category: '200cc',
    colors_available: [ 'red', 'blue' ],
    manufacturer: 'Suzuki',
    performance: 10,
    timestamp: ISODate('2020-03-03T00:00:00.000Z'),
    price: 19999
  },
  {
    _id: ObjectId('699fcf4b18c1469cef766cc7'),
    bike_name: 'Jupiter',
    model: 'Gearless',
    category: '200cc',
    colors_available: [ 'brown', 'red', 'black' ],
    manufacturer: 'TVS',
    performance: 8,
    timestamp: ISODate('2019-04-10T00:00:00.000Z'),
    price: 19999
  }
]
Vehicle> |
```

```
Terminal Shell Edit View Window Help
pranaykamble - mongosh mongoDB://127.0.0.1:27017/?directConnection=true&serverSelectionTimeoutMS=2000 - ?directConnection=true&__CFBundleIdentifier=com.apple.Terminal - 178x45
vehicle db.four_wHEELERS.find()
[
  {
    _id: ObjectId('699fcf9918c1469cef766cc8'),
    vehicle_name: 'Car2',
    model: 'own',
    category: 'car',
    variant: [ 'vxi', 'diesel', 'petrol' ],
    manufacturer: 'Man1',
    performance: 8,
    timestamp: ISODate('2025-05-10T00:00:00.000Z'),
    price: 220000
  },
  {
    _id: ObjectId('699fcf9918c1469cef766cc9'),
    vehicle_name: 'Car3',
    model: 'commercial',
    category: 'car',
    variant: [ 'water', 'diesel', 'petrol' ],
    manufacturer: 'Man2',
    performance: 10,
    timestamp: ISODate('2025-12-10T00:00:00.000Z'),
    price: 300000
  },
  {
    _id: ObjectId('699fcf9918c1469cef766cc9'),
    vehicle_name: 'Car4',
    model: 'commercial',
    category: 'car',
    variant: [ 'water', 'diesel', 'petrol' ],
    manufacturer: 'Man3',
    performance: 10,
    timestamp: ISODate('2025-12-20T00:00:00.000Z'),
    price: 300000
  },
  {
    _id: ObjectId('699fcf9918c1469cef766cc9'),
    vehicle_name: 'Car5',
    model: 'commercial',
    category: 'car',
    variant: [ 'water', 'diesel', 'petrol' ],
    manufacturer: 'Man4',
    performance: 10,
    timestamp: ISODate('2025-05-10T00:00:00.000Z'),
    price: 300000
  }
]
Vehicle> |
```

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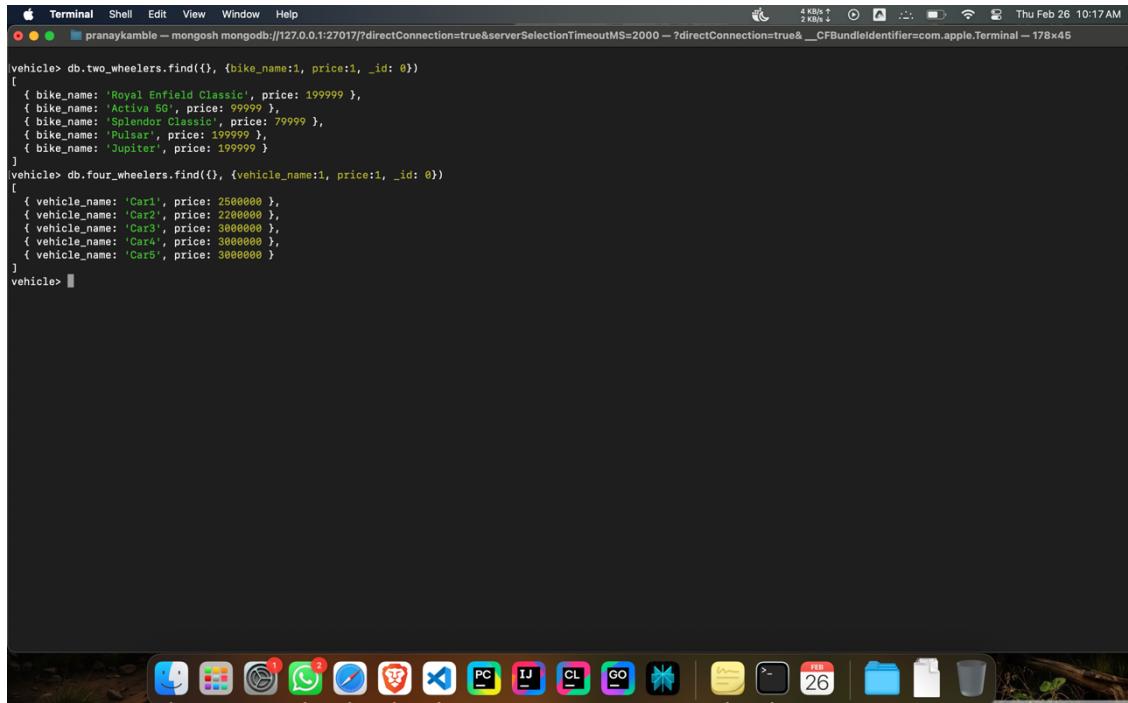
Faculty Name: Prof. S.Gopikrishnan

School: SCOPE

Student name:

Reg. no.:

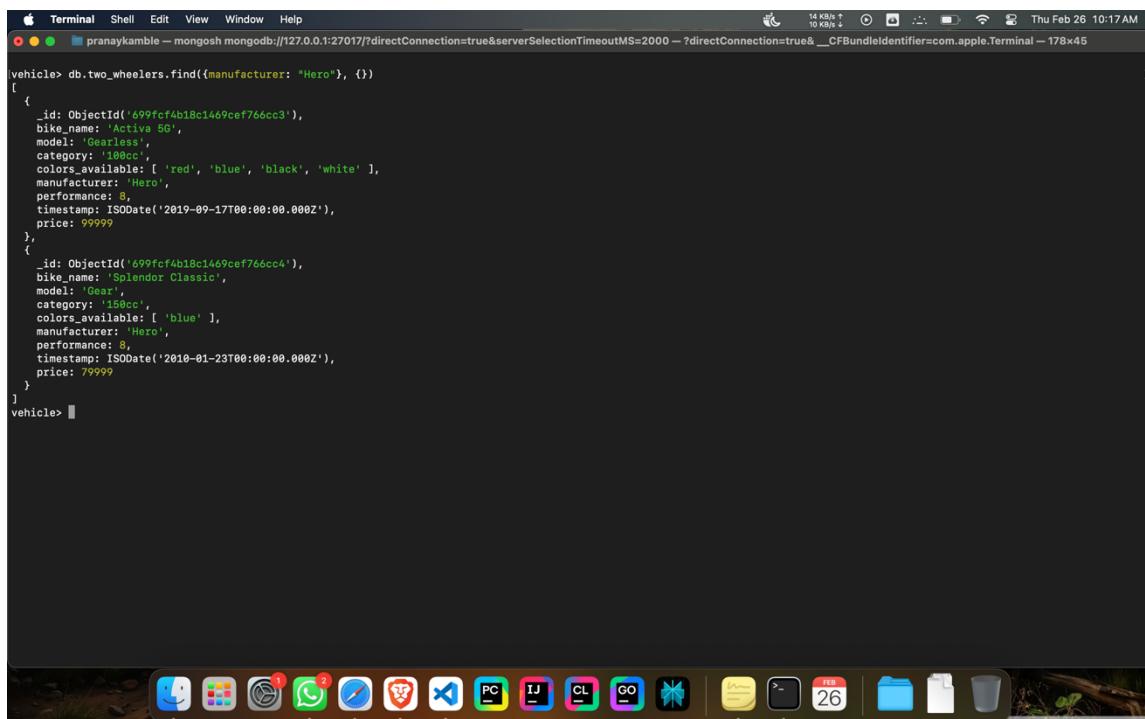
7. Write a MongoDB query to display only vehicle name and price in all the collection of the database



```
Terminal Shell Edit View Window Help
pranaykamble - mongosh mongodb://127.0.0.1:27017/?directConnection=true&serverSelectionTimeoutMS=2000 -- ?directConnection=true&__CFBundleIdentifier=com.apple.Terminal - 178x45

vehicle> db.two_wHEELERS.find({, {vehicle_name:1, price:1, _id:0})
[
  { vehicle_name: 'Royal Enfield Classic', price: 199999 },
  { vehicle_name: 'Activa 5G', price: 99999 },
  { vehicle_name: 'Splendor Classic', price: 79999 },
  { vehicle_name: 'Pulsar', price: 199999 },
  { vehicle_name: 'Jupiter', price: 199999 }
]
vehicle> db.four_wHEELERS.find({, {vehicle_name:1, price:1, _id:0})
[
  { vehicle_name: 'Car1', price: 2500000 },
  { vehicle_name: 'Car2', price: 2200000 },
  { vehicle_name: 'Car3', price: 3000000 },
  { vehicle_name: 'Car4', price: 3000000 },
  { vehicle_name: 'Car5', price: 3000000 }
]
vehicle> 
```

8. Write a MongoDB query to display two_wHEELERS from a particular company



```
Terminal Shell Edit View Window Help
pranaykamble - mongosh mongodb://127.0.0.1:27017/?directConnection=true&serverSelectionTimeoutMS=2000 -- ?directConnection=true&__CFBundleIdentifier=com.apple.Terminal - 178x45

vehicle> db.two_wHEELERS.find({manufacturer: "Hero"}, {})
[
  {
    _id: ObjectId('699fcf4b18c1469cef766cc3'),
    bike_name: 'Activa 5G',
    model: 'Gearless',
    category: '100cc',
    colors_available: [ 'red', 'blue', 'black', 'white' ],
    manufacturer: 'Hero',
    performance: 8,
    timestamp: ISODate('2019-09-17T00:00:00.000Z'),
    price: 99999
  },
  {
    _id: ObjectId('699fcf4b18c1469cef766cc4'),
    bike_name: 'Splendor Classic',
    model: 'Gear',
    category: '150cc',
    colors_available: [ 'blue' ],
    manufacturer: 'Hero',
    performance: 8,
    timestamp: ISODate('2018-01-23T00:00:00.000Z'),
    price: 79999
  }
]
vehicle> 
```

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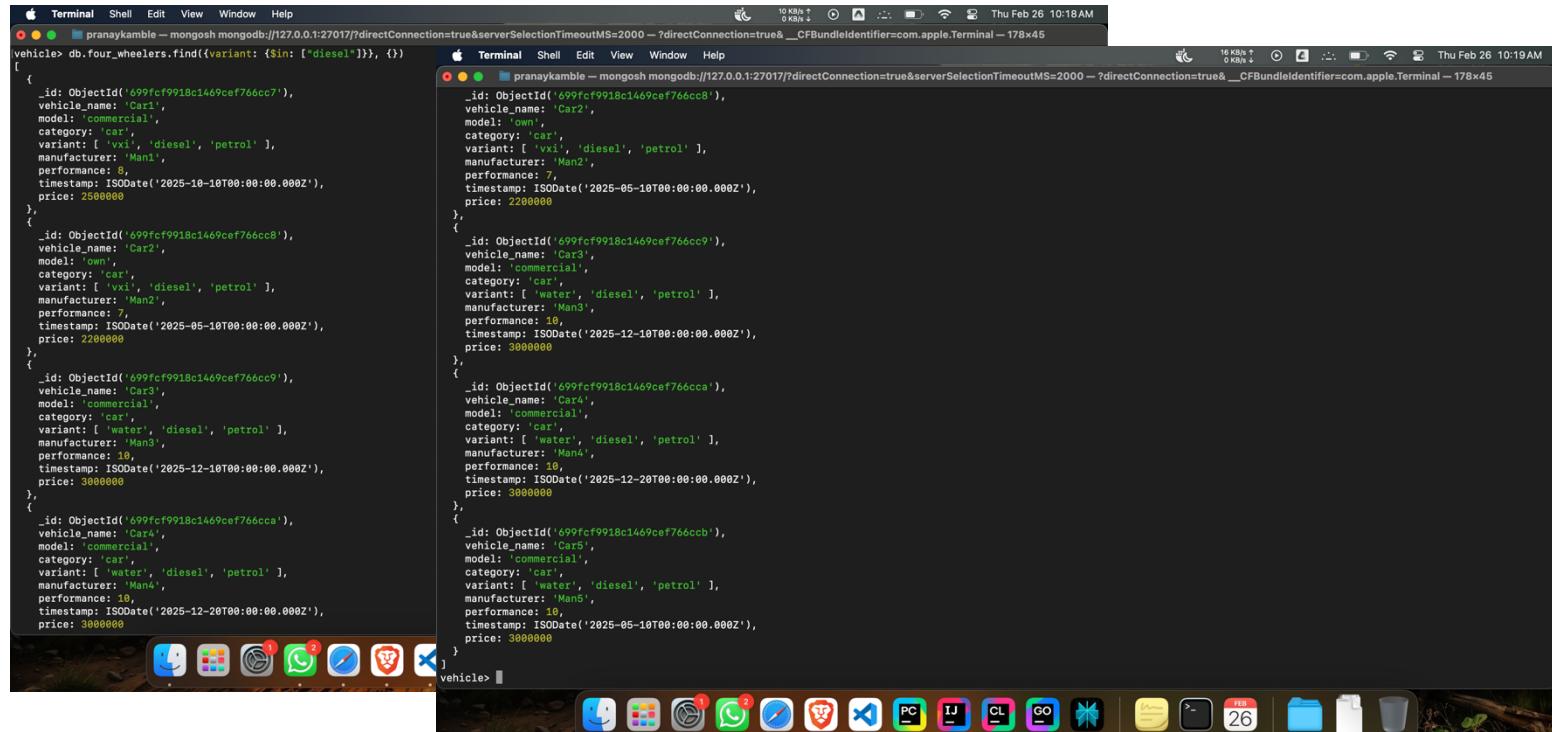
Faculty Name: Prof. S.Gopikrishnan

School: SCOPE

Student name:

Reg. no.:

9. Write a MongoDB query to display four_wheelers available in diesel variants



```

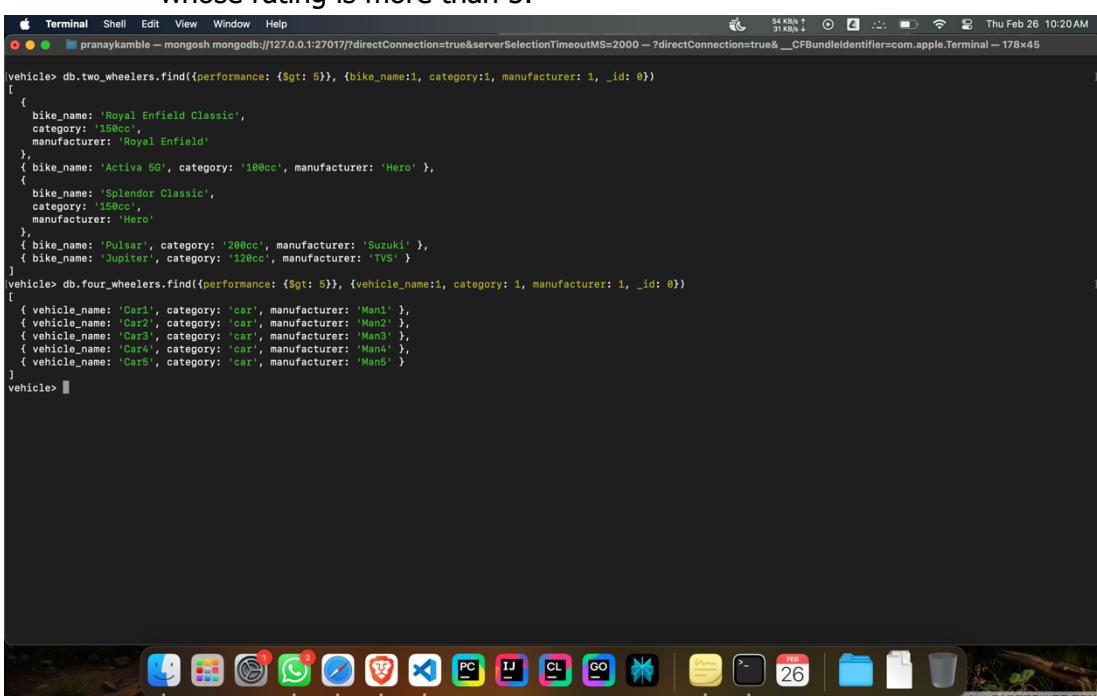
Terminal Shell Edit View Window Help
pranaykamble - mongosh mongodb://127.0.0.1:27017/?directConnection=true&serverSelectionTimeoutMS=2000 -- ?directConnection=true&__CFBundleIdentifier=com.apple.Terminal - 178x45
[1]
{
  _id: ObjectId('699fcf9918c1469cef766cc7'),
  vehicle_name: 'Car1',
  model: 'Commercial',
  category: 'car',
  variant: [ 'vxi', 'diesel', 'petrol' ],
  manufacturer: 'Man1',
  performance: 8,
  timestamp: ISODate('2025-10-10T00:00:00.000Z'),
  price: 2500000
},
{
  _id: ObjectId('699fcf9918c1469cef766cc8'),
  vehicle_name: 'Car2',
  model: 'Own',
  category: 'car',
  variant: [ 'vxi', 'diesel', 'petrol' ],
  manufacturer: 'Man2',
  performance: 7,
  timestamp: ISODate('2025-05-10T00:00:00.000Z'),
  price: 2200000
},
{
  _id: ObjectId('699fcf9918c1469cef766cc9'),
  vehicle_name: 'Car3',
  model: 'Commercial',
  category: 'car',
  variant: [ 'vxi', 'diesel', 'petrol' ],
  manufacturer: 'Man2',
  performance: 7,
  timestamp: ISODate('2025-05-10T00:00:00.000Z'),
  price: 2200000
},
{
  _id: ObjectId('699fcf9918c1469cef766cca'),
  vehicle_name: 'Car4',
  model: 'Commercial',
  category: 'car',
  variant: [ 'water', 'diesel', 'petrol' ],
  manufacturer: 'Man3',
  performance: 10,
  timestamp: ISODate('2025-12-10T00:00:00.000Z'),
  price: 3000000
},
{
  _id: ObjectId('699fcf9918c1469cef766ccb'),
  vehicle_name: 'Car5',
  model: 'Commercial',
  category: 'car',
  variant: [ 'water', 'diesel', 'petrol' ],
  manufacturer: 'Man4',
  performance: 10,
  timestamp: ISODate('2025-12-20T00:00:00.000Z'),
  price: 3000000
}
]

Terminal Shell Edit View Window Help
pranaykamble - mongosh mongodb://127.0.0.1:27017/?directConnection=true&serverSelectionTimeoutMS=2000 -- ?directConnection=true&__CFBundleIdentifier=com.apple.Terminal - 178x45
[1]
{
  _id: ObjectId('699fcf9918c1469cef766cc8'),
  vehicle_name: 'Car3',
  model: 'Commercial',
  category: 'car',
  variant: [ 'vxi', 'diesel', 'petrol' ],
  manufacturer: 'Man2',
  performance: 7,
  timestamp: ISODate('2025-05-10T00:00:00.000Z'),
  price: 2200000
},
{
  _id: ObjectId('699fcf9918c1469cef766cc9'),
  vehicle_name: 'Car4',
  model: 'Commercial',
  category: 'car',
  variant: [ 'water', 'diesel', 'petrol' ],
  manufacturer: 'Man3',
  performance: 10,
  timestamp: ISODate('2025-12-10T00:00:00.000Z'),
  price: 3000000
},
{
  _id: ObjectId('699fcf9918c1469cef766ccb'),
  vehicle_name: 'Car5',
  model: 'Commercial',
  category: 'car',
  variant: [ 'water', 'diesel', 'petrol' ],
  manufacturer: 'Man4',
  performance: 10,
  timestamp: ISODate('2025-05-10T00:00:00.000Z'),
  price: 3000000
}
]

vehicle>

```

10. Write a MongoDB query to display vehicles name, category and manufacturer details whose rating is more than 5.



```

Terminal Shell Edit View Window Help
pranaykamble - mongosh mongodb://127.0.0.1:27017/?directConnection=true&serverSelectionTimeoutMS=2000 -- ?directConnection=true&__CFBundleIdentifier=com.apple.Terminal - 178x45
[1]
vehicle> db.two_wheelers.find({performance: {$gt: 5}, {bike_name:1, category:1, manufacturer: 1, _id: 0}}
{
  {
    bike_name: 'Royal Enfield Classic',
    category: '150cc',
    manufacturer: 'Royal Enfield'
  },
  {
    bike_name: 'Activa 5G', category: '100cc', manufacturer: 'Hero'
  },
  {
    bike_name: 'Splendor Classic',
    category: '150cc',
    manufacturer: 'Hero'
  },
  {
    bike_name: 'Pulsar', category: '200cc', manufacturer: 'Suzuki'
  },
  {
    bike_name: 'Jupiter', category: '120cc', manufacturer: 'TVS'
  }
}

vehicle> db.four_wheelers.find({performance: {$gt: 5}, {vehicle_name:1, category: 1, manufacturer: 1, _id: 0}}
{
  {
    vehicle_name: 'Car1', category: 'car', manufacturer: 'Man1'
  },
  {
    vehicle_name: 'Car2', category: 'car', manufacturer: 'Man2'
  },
  {
    vehicle_name: 'Car3', category: 'car', manufacturer: 'Man3'
  },
  {
    vehicle_name: 'Car4', category: 'car', manufacturer: 'Man4'
  },
  {
    vehicle_name: 'Car5', category: 'car', manufacturer: 'Man5'
  }
}

vehicle>

```

VIT-AP UNIVERSITY, ANDHRA PRADESH

Lab Sheet 6: MongoDB Basic commands

Branch/ Class: B.Tech/M.Tech

Date:

Faculty Name: Prof. S.Gopikrishnan

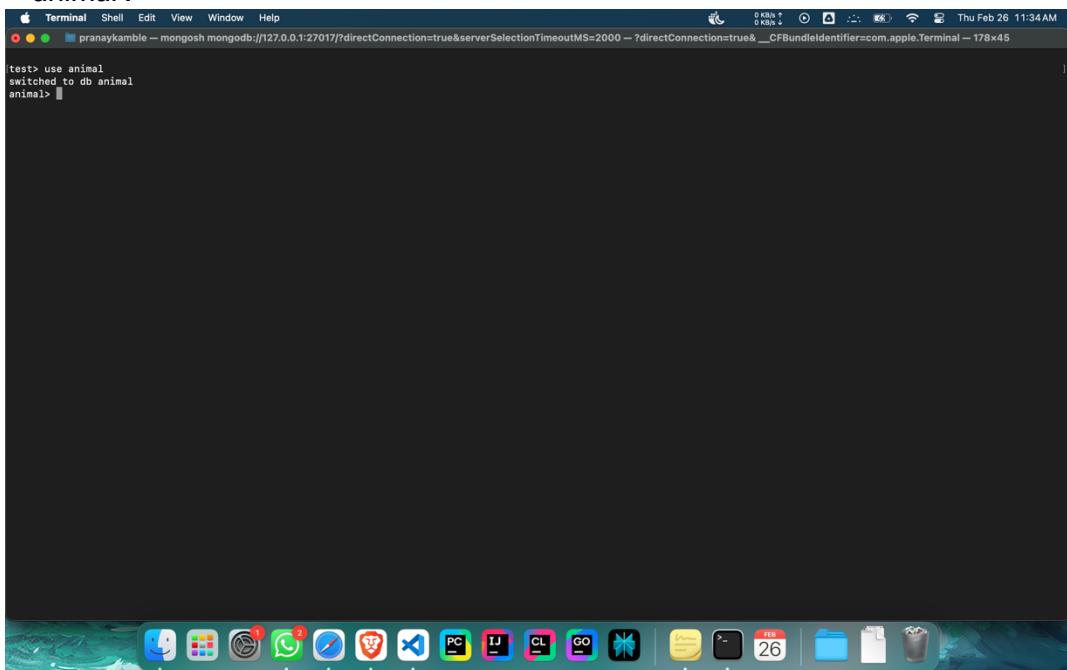
School: SCOPE

Student name:

Reg. no.:

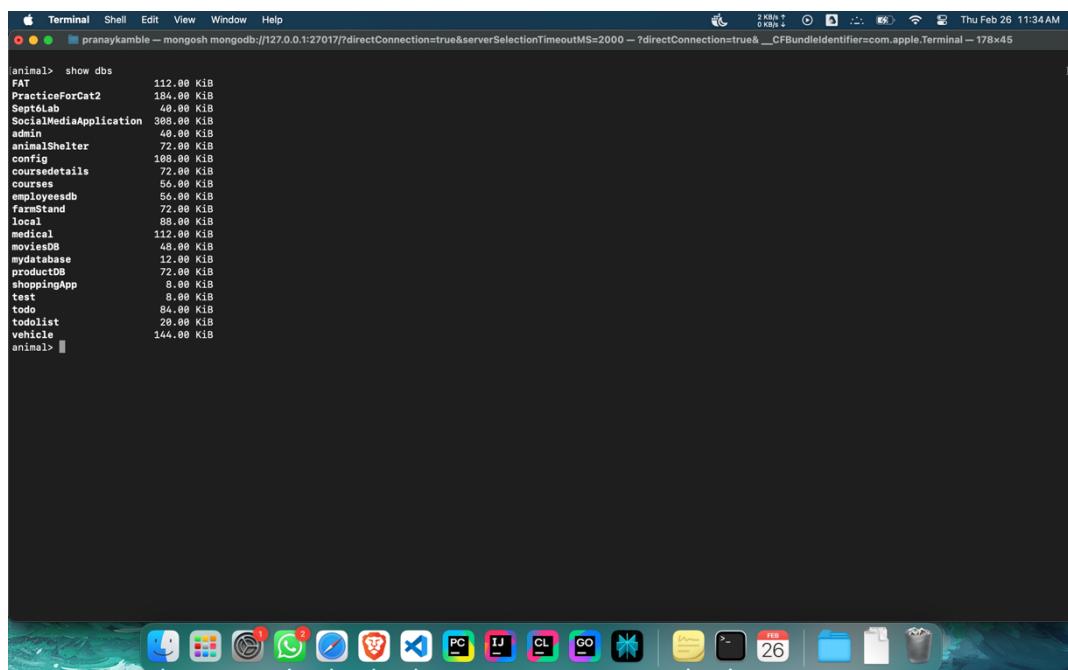
2. Use MongoDB to implement the following DB operations for a Zoo

1. Create a database called 'animal' and *write* a MongoDB query to select database as 'animal'.



```
test> use animal
switched to db animal
animal>
```

2. Write a MongoDB query to display all the databases.



```
animal> show dbs
FAT           112.00 Kib
PracticeForCat2 184.00 Kib
Sept6Lab       40.00 Kib
SocialMediaApplication 308.00 Kib
admin          40.00 Kib
animalShelter 72.00 Kib
config         160.00 Kib
courseDetails 72.00 Kib
courses        56.00 Kib
employeesdb   56.00 Kib
farmStand      72.00 Kib
local          88.00 Kib
medical        112.00 Kib
moviesDB       48.00 Kib
mydatabase     12.00 Kib
productDB     72.00 Kib
shoppingApp   57.00 Kib
test          8.00 Kib
todo          84.00 Kib
todolist      20.00 Kib
vehicle        144.00 Kib
animal>
```

Lab Sheet 6: MongoDB Basic commands

Branch/ Class: B.Tech/M.Tech

Date:

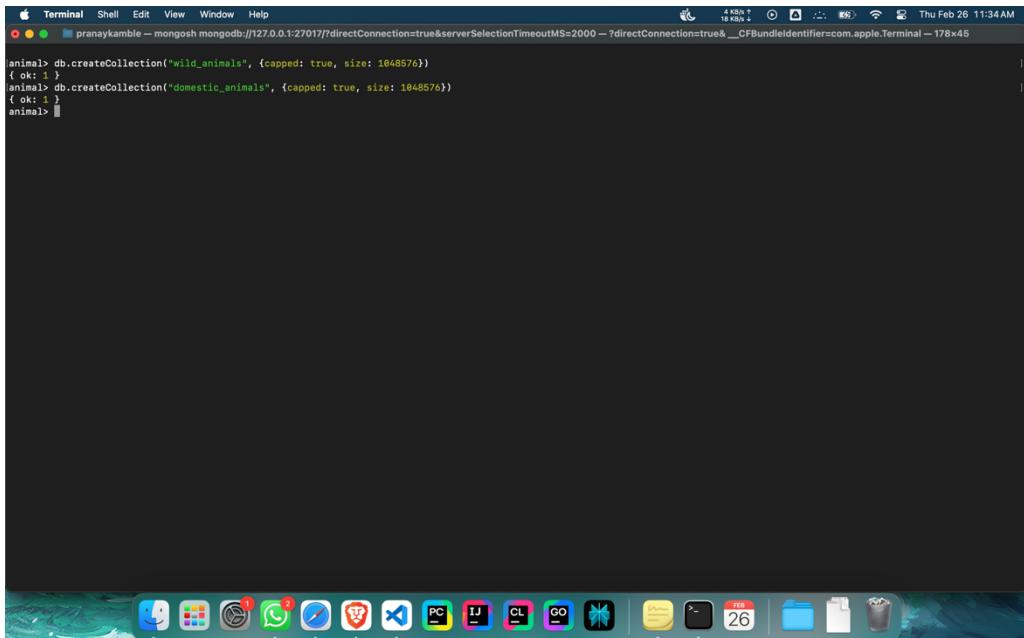
Faculty Name: Prof. S.Gopikrishnan

School: SCOPE

Student name:

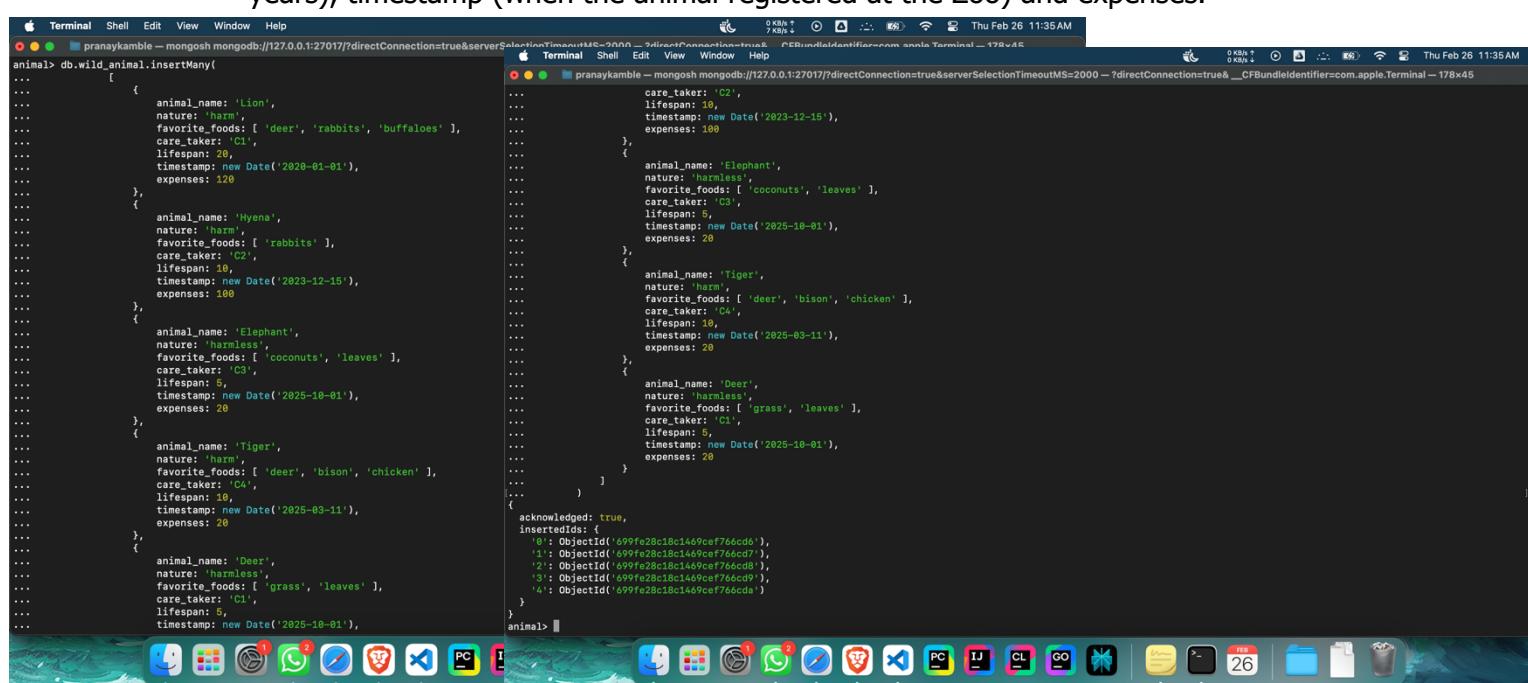
Reg. no.:

3. Create a collection called 'wild_animals'.(use capping) and Create a collection called 'domestic_animals'.



```
Terminal Shell Edit View Window Help
pranaykamble - mongosh mongodb://127.0.0.1:27017/?directConnection=true&serverSelectionTimeoutMS=2000 -- ?directConnection=true&__CFBundleIdentifier=com.apple.Terminal - 178x45
animal> db.createCollection("wild_animals", {capped: true, size: 1048576})
{ ok: 1 }
animal> db.createCollection("domestic_animals", {capped: true, size: 1048576})
{ ok: 1 }
animal> 
```

4. Add 5 wild_animal details to the collection named 'wild_animals'. Each document consists of following fields as animal_name, nature (harm or harmless), favorite_foods (meat, rabbits, deer etc) as array, care_taker_name, life span (in years), timestamp (when the animal registered at the Zoo) and expenses.



```
Terminal Shell Edit View Window Help
pranaykamble - mongosh mongodb://127.0.0.1:27017/?directConnection=true&serverSelectionTimeoutMS=2000 -- ?directConnection=true&__CFBundleIdentifier=com.apple.Terminal - 178x45
animal> db.wild_animal.insertMany([
...   {
...     animal_name: 'Lion',
...     nature: 'harm',
...     favorite_foods: [ 'deer', 'rabbits', 'buffaloes' ],
...     care_taker: 'C1',
...     lifespan: 28,
...     timestamp: new Date('2020-01-01'),
...     expenses: 120
...   },
...   {
...     animal_name: 'Hyena',
...     nature: 'harm',
...     favorite_foods: [ 'rabbits' ],
...     care_taker: 'C2',
...     lifespan: 16,
...     timestamp: new Date('2023-12-15'),
...     expenses: 100
...   },
...   {
...     animal_name: 'Elephant',
...     nature: 'harmless',
...     favorite_foods: [ 'coconuts', 'leaves' ],
...     care_taker: 'C3',
...     lifespan: 5,
...     timestamp: new Date('2025-10-01'),
...     expenses: 20
...   },
...   {
...     animal_name: 'Tiger',
...     nature: 'harm',
...     favorite_foods: [ 'deer', 'bison', 'chicken' ],
...     care_taker: 'C4',
...     lifespan: 18,
...     timestamp: new Date('2025-03-11'),
...     expenses: 20
...   },
...   {
...     animal_name: 'Deer',
...     nature: 'harmless',
...     favorite_foods: [ 'grass', 'leaves' ],
...     care_taker: 'C5',
...     lifespan: 5,
...     timestamp: new Date('2025-10-01'),
...     expenses: 10
...   }
... ],
... {
...   acknowledged: true,
...   insertedIds: [
...     '0': ObjectId('699fe28c18c1469cef766cd6'),
...     '1': ObjectId('699fe28c18c1469cef766cd7'),
...     '2': ObjectId('699fe28c18c1469cef766cd8'),
...     '3': ObjectId('699fe28c18c1469cef766cd9'),
...     '4': ObjectId('699fe28c18c1469cef766cd9')
...   ]
... });
animal> 
```

Lab Sheet 6: MongoDB Basic commands

Branch/ Class: B.Tech/M.Tech

Date:

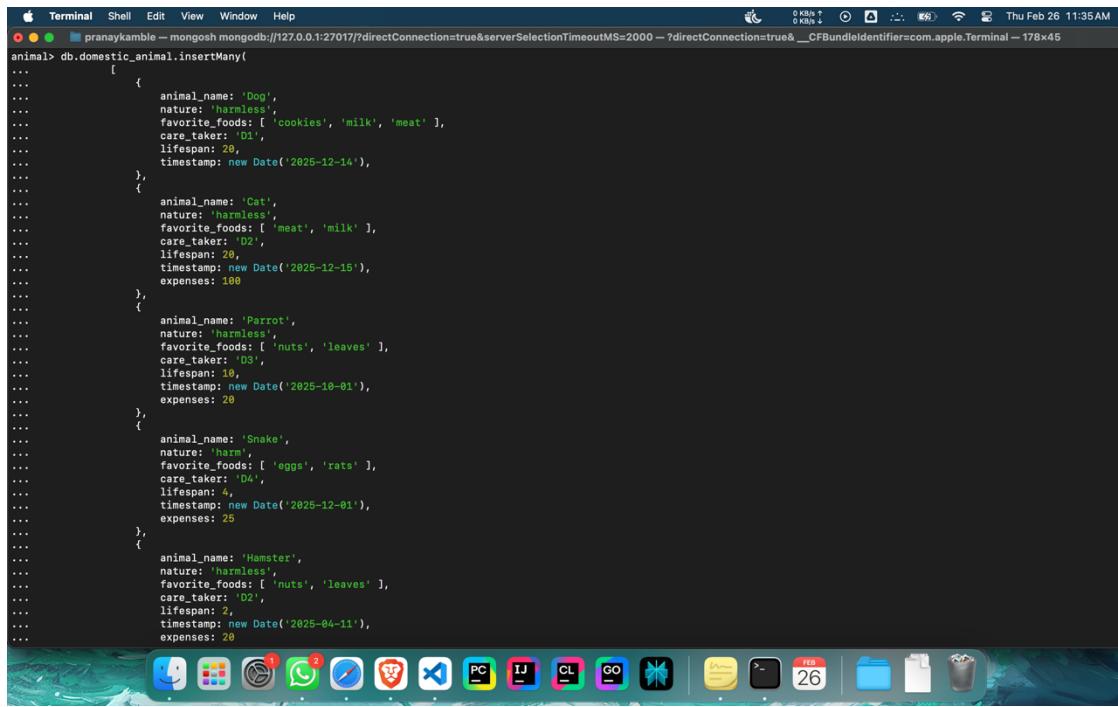
Faculty Name: Prof. S.Gopikrishnan

School: SCOPE

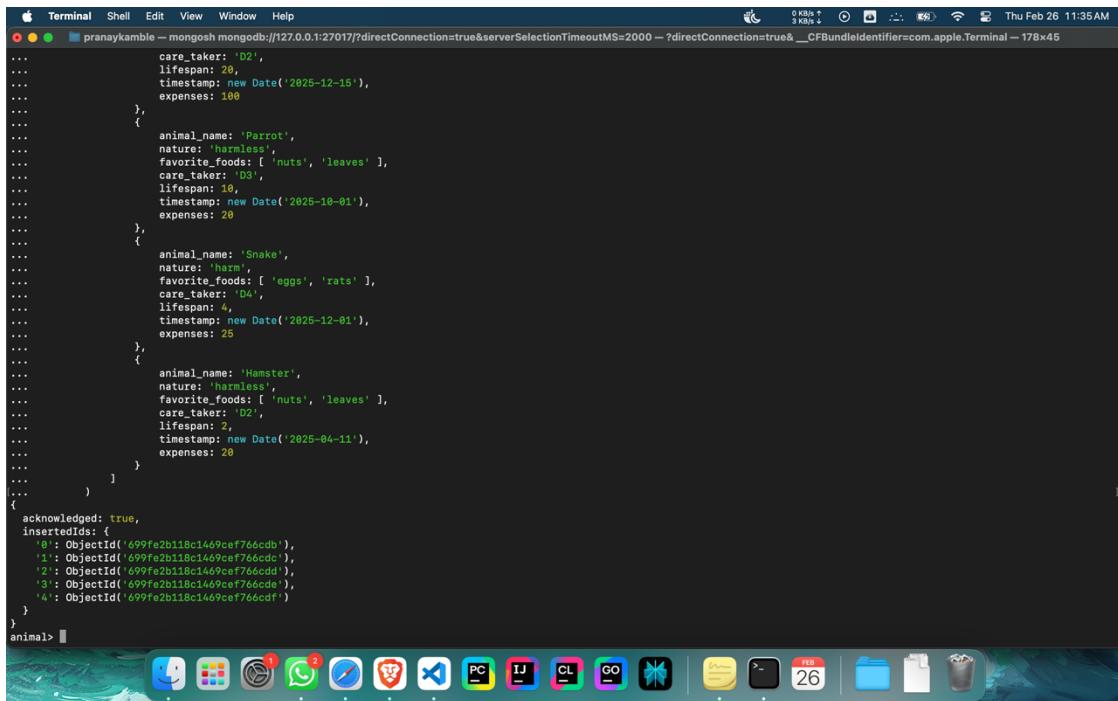
Student name:

Reg. no.:

5. Add 5 domestic-animal details to the collection named 'domestic_animals'. Each document consists of following fields as animal_name, gender (male or female), favorite_foods (meat, rabbits, deer etc) as array, animal_petname, life span (in years), timestamp (when the animal registered at the Zoo) and expenses.



```
Terminal Shell Edit View Window Help
pranaykamble - mongosh mongodb://127.0.0.1:27017/?directConnection=true&serverSelectionTimeoutMS=2000 --?directConnection=true&__CFBundleIdentifier=com.apple.Terminal - 178x45
animal> db.domestic_animal.insertMany([
  {
    animal_name: 'Dog',
    nature: 'harmless',
    favorite_foods: [ 'cookies', 'milk', 'meat' ],
    care_taker: 'D3',
    lifespan: 20,
    timestamp: new Date('2025-12-14'),
  },
  {
    animal_name: 'Cat',
    nature: 'harmless',
    favorite_foods: [ 'meat', 'milk' ],
    care_taker: 'D2',
    lifespan: 20,
    timestamp: new Date('2025-12-15'),
    expenses: 100
  },
  {
    animal_name: 'Parrot',
    nature: 'harmless',
    favorite_foods: [ 'nuts', 'leaves' ],
    care_taker: 'D3',
    lifespan: 10,
    timestamp: new Date('2025-10-01'),
    expenses: 20
  },
  {
    animal_name: 'Snake',
    nature: 'harm',
    favorite_foods: [ 'eggs', 'rats' ],
    care_taker: 'D4',
    lifespan: 4,
    timestamp: new Date('2025-12-01'),
    expenses: 25
  },
  {
    animal_name: 'Hamster',
    nature: 'harmless',
    favorite_foods: [ 'nuts', 'leaves' ],
    care_taker: 'D2',
    lifespan: 2,
    timestamp: new Date('2025-04-11'),
    expenses: 20
  }
])
{
  acknowledged: true,
  insertedIds: [
    '0': ObjectId('699fe2b118c1469cef766cd8'),
    '1': ObjectId('699fe2b118c1469cef766cd9'),
    '2': ObjectId('699fe2b118c1469cef766cd0'),
    '3': ObjectId('699fe2b118c1469cef766cd1'),
    '4': ObjectId('699fe2b118c1469cef766cdf')
}
animal>
```



```
Terminal Shell Edit View Window Help
pranaykamble - mongosh mongodb://127.0.0.1:27017/?directConnection=true&serverSelectionTimeoutMS=2000 --?directConnection=true&__CFBundleIdentifier=com.apple.Terminal - 178x45
care_taker: 'D2',
lifespan: 20,
timestamp: new Date('2025-12-15'),
expenses: 100
},
{
  animal_name: 'Parrot',
  nature: 'harmless',
  favorite_foods: [ 'nuts', 'leaves' ],
  care_taker: 'D3',
  lifespan: 10,
  timestamp: new Date('2025-10-01'),
  expenses: 20
},
{
  animal_name: 'Snake',
  nature: 'harm',
  favorite_foods: [ 'eggs', 'rats' ],
  care_taker: 'D4',
  lifespan: 4,
  timestamp: new Date('2025-12-01'),
  expenses: 25
},
{
  animal_name: 'Hamster',
  nature: 'harmless',
  favorite_foods: [ 'nuts', 'leaves' ],
  care_taker: 'D2',
  lifespan: 2,
  timestamp: new Date('2025-04-11'),
  expenses: 20
},
]
)
{
  acknowledged: true,
  insertedIds: [
    '0': ObjectId('699fe2b118c1469cef766cd8'),
    '1': ObjectId('699fe2b118c1469cef766cd9'),
    '2': ObjectId('699fe2b118c1469cef766cd0'),
    '3': ObjectId('699fe2b118c1469cef766cd1'),
    '4': ObjectId('699fe2b118c1469cef766cdf')
}
}
animal>
```

Lab Sheet 6: MongoDB Basic commands

Branch/ Class: B.Tech/M.Tech

Date:

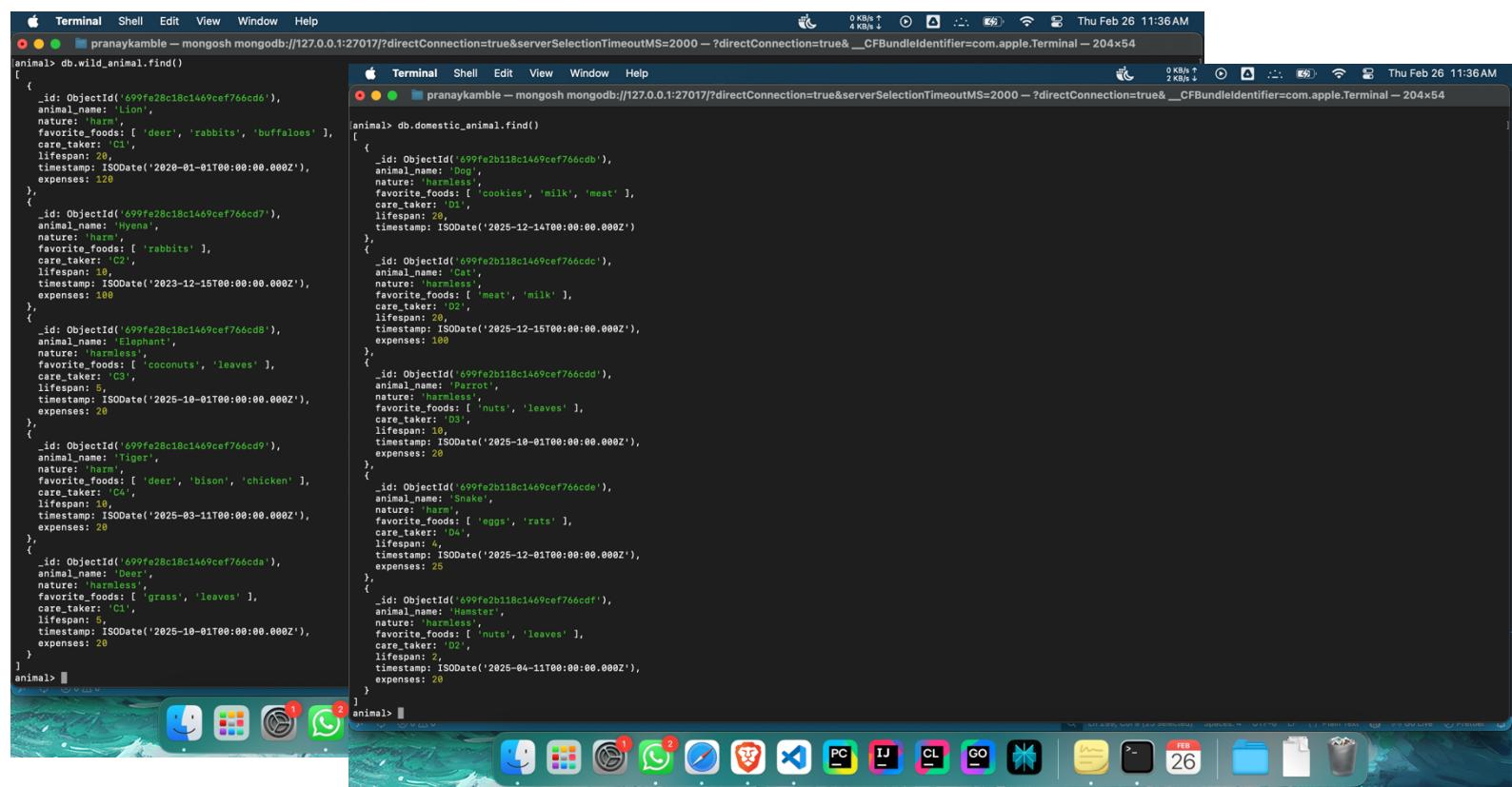
Faculty Name: Prof. S.Gopikrishnan

School: SCOPE

Student name:

Reg. no.:

6. Write a MongoDB query to display all documents available in wild_animals and domestic_animals.



```

Terminal Shell Edit View Window Help
pranaykamble - mongosh mongodb://127.0.0.1:27017/?directConnection=true&serverSelectionTimeoutMS=2000 --?directConnection=true&__CFBundleIdentifier=com.apple.Terminal - 204x54
[animal> db.wild_animal.find()
[
  {
    _id: ObjectId('699fe28c18c1469cef766cd6'),
    animal_name: 'Lion',
    nature: 'harmful',
    favorite_foods: [ 'deer', 'rabbits', 'buffaloes' ],
    care_taker: 'C1',
    lifespan: 28,
    timestamp: ISODate('2020-01-01T00:00:00.000Z'),
    expenses: 120
  },
  {
    _id: ObjectId('699fe28c18c1469cef766cd7'),
    animal_name: 'Hyena',
    nature: 'harmful',
    favorite_foods: [ 'rabbits' ],
    care_taker: 'C2',
    lifespan: 10,
    timestamp: ISODate('2023-12-15T00:00:00.000Z'),
    expenses: 100
  },
  {
    _id: ObjectId('699fe28c18c1469cef766cd8'),
    animal_name: 'Elephant',
    nature: 'harmless',
    favorite_foods: [ 'coconuts', 'leaves' ],
    care_taker: 'C3',
    lifespan: 5,
    timestamp: ISODate('2025-10-01T00:00:00.000Z'),
    expenses: 20
  },
  {
    _id: ObjectId('699fe28c18c1469cef766cd9'),
    animal_name: 'Tiger',
    nature: 'harmful',
    favorite_foods: [ 'deer', 'bison', 'chicken' ],
    care_taker: 'C4',
    lifespan: 10,
    timestamp: ISODate('2025-03-11T00:00:00.000Z'),
    expenses: 20
  },
  {
    _id: ObjectId('699fe28c18c1469cef766cd0'),
    animal_name: 'Deer',
    nature: 'harmless',
    favorite_foods: [ 'grass', 'leaves' ],
    care_taker: 'C1',
    lifespan: 5,
    timestamp: ISODate('2025-10-01T00:00:00.000Z'),
    expenses: 20
  }
]
animal>

```

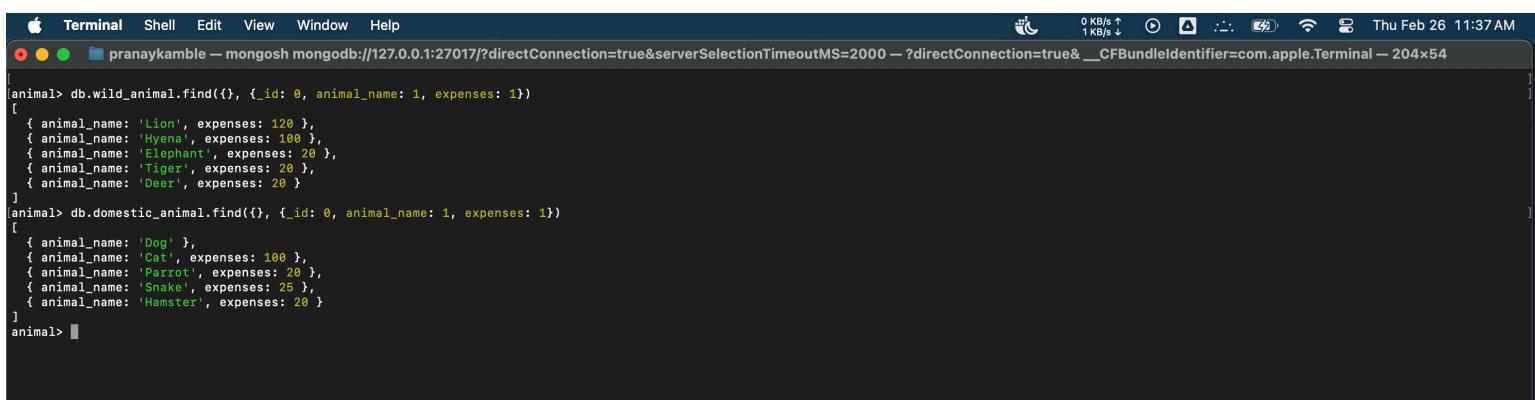


```

Terminal Shell Edit View Window Help
pranaykamble - mongosh mongodb://127.0.0.1:27017/?directConnection=true&serverSelectionTimeoutMS=2000 --?directConnection=true&__CFBundleIdentifier=com.apple.Terminal - 204x54
[animal> db.domestic_animal.find()
[
  {
    _id: ObjectId('699fe2b18c1469cef766cd8'),
    animal_name: 'Dog',
    nature: 'harmless',
    favorite_foods: [ 'cookies', 'milk', 'meat' ],
    care_taker: 'D1',
    lifespan: 20,
    timestamp: ISODate('2025-12-14T00:00:00.000Z')
  },
  {
    _id: ObjectId('699fe2b18c1469cef766cd9'),
    animal_name: 'Cat',
    nature: 'harmless',
    favorite_foods: [ 'meat', 'milk' ],
    care_taker: 'D2',
    lifespan: 20,
    timestamp: ISODate('2025-12-15T00:00:00.000Z'),
    expenses: 100
  },
  {
    _id: ObjectId('699fe2b18c1469cef766cd0'),
    animal_name: 'Parrot',
    nature: 'harmless',
    favorite_foods: [ 'nuts', 'leaves' ],
    care_taker: 'D3',
    lifespan: 10,
    timestamp: ISODate('2025-10-01T00:00:00.000Z'),
    expenses: 20
  },
  {
    _id: ObjectId('699fe2b18c1469cef766cd1'),
    animal_name: 'Snake',
    nature: 'harmful',
    favorite_foods: [ 'eggs', 'rats' ],
    care_taker: 'D4',
    lifespan: 4,
    timestamp: ISODate('2025-12-01T00:00:00.000Z'),
    expenses: 25
  },
  {
    _id: ObjectId('699fe2b18c1469cef766cd2'),
    animal_name: 'Hamster',
    nature: 'harmless',
    favorite_foods: [ 'nuts', 'leaves' ],
    care_taker: 'D2',
    lifespan: 2,
    timestamp: ISODate('2025-04-11T00:00:00.000Z'),
    expenses: 20
  }
]
animal>

```

7. Write a MongoDB query to display only animal name and expenses in all the collection of the database



```

Terminal Shell Edit View Window Help
pranaykamble - mongosh mongodb://127.0.0.1:27017/?directConnection=true&serverSelectionTimeoutMS=2000 --?directConnection=true&__CFBundleIdentifier=com.apple.Terminal - 204x54
[animal> db.wild_animal.find({}, { _id: 0, animal_name: 1, expenses: 1 })
[
  { animal_name: 'Lion', expenses: 120 },
  { animal_name: 'Hyena', expenses: 100 },
  { animal_name: 'Elephant', expenses: 20 },
  { animal_name: 'Tiger', expenses: 20 },
  { animal_name: 'Deer', expenses: 20 }
]
animal> db.domestic_animal.find({}, { _id: 0, animal_name: 1, expenses: 1 })
[
  { animal_name: 'Dog' },
  { animal_name: 'Cat', expenses: 100 },
  { animal_name: 'Parrot', expenses: 20 },
  { animal_name: 'Snake', expenses: 25 },
  { animal_name: 'Hamster', expenses: 20 }
]
animal>

```

Lab Sheet 6: MongoDB Basic commands

Branch/ Class: B.Tech/M.Tech

Date:

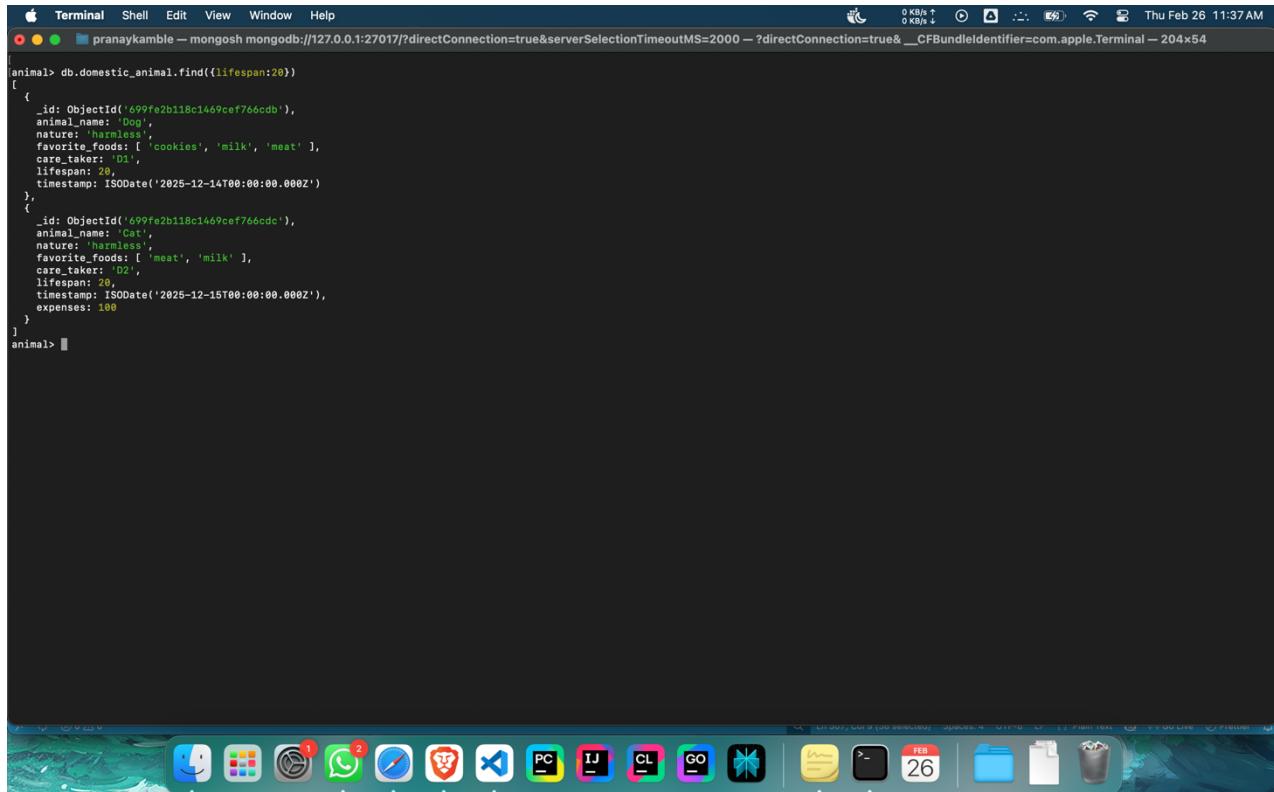
Faculty Name: Prof. S.Gopikrishnan

School: SCOPE

Student name:

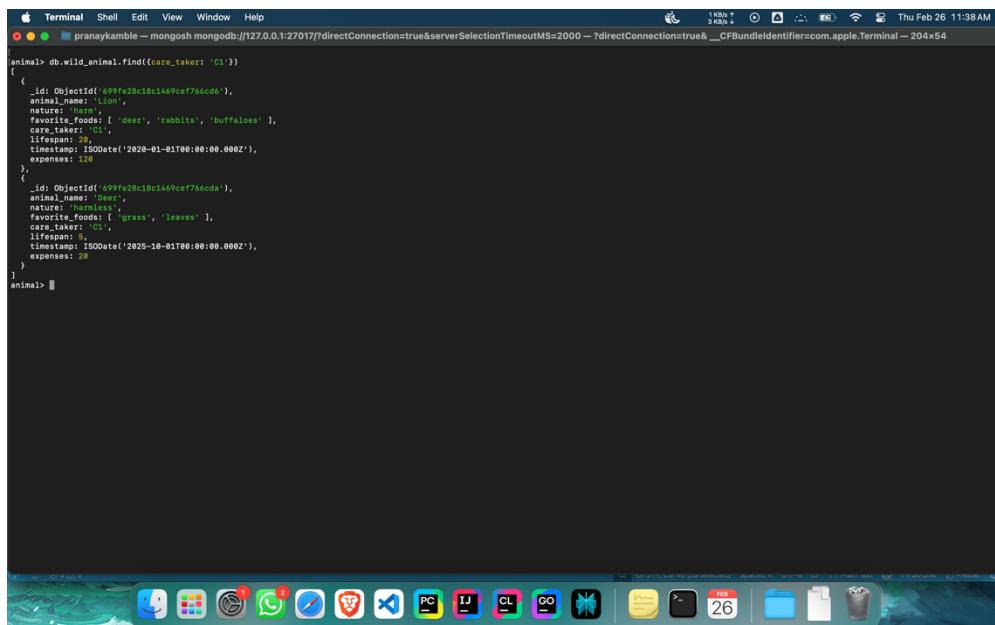
Reg. no.:

8. Write a MongoDB query to display domestic_animals whose life is a particular year



```
animal> db.domestic_animal.find({lifespan:20})
[
  {
    _id: ObjectId('699fe2b118c1469cef766cd8'),
    animal_name: 'Dog',
    nature: 'harmless',
    favorite_foods: [ 'cookies', 'milk', 'meat' ],
    care_taker: 'D1',
    lifespan: 20,
    timestamp: ISODate('2025-12-14T00:00:00.000Z')
  },
  {
    _id: ObjectId('699fe2b118c1469cef766cdc'),
    animal_name: 'Cat',
    nature: 'harmless',
    favorite_foods: [ 'meat', 'milk' ],
    care_taker: 'D2',
    lifespan: 20,
    timestamp: ISODate('2025-12-15T00:00:00.000Z'),
    expenses: 100
  }
]
animal> 
```

9. Write a MongoDB query to display wild_animals available under a particular care_taker



```
animal> db.wild_animal.find({care_taker: 'C1'})
[
  {
    _id: ObjectId('699fe28c18c1469cef766dd6'),
    animal_name: 'Lion',
    favorite_foods: [ 'deer', 'rabbits', 'buffaloes' ],
    care_taker: 'C1',
    lifespan: 20,
    timestamp: ISODate('2020-01-01T00:00:00.000Z'),
    expenses: 120
  },
  {
    _id: ObjectId('699fe28c18c1469cef766cd8'),
    animal_name: 'Deer',
    nature: 'harmless',
    favorite_foods: [ 'grass', 'leaves' ],
    care_taker: 'C1',
    lifespan: 20,
    timestamp: ISODate('2025-10-01T00:00:00.000Z'),
    expenses: 20
  }
]
animal> 
```

Lab Sheet 6: MongoDB Basic commands

Branch/ Class: B.Tech/M.Tech

Date:

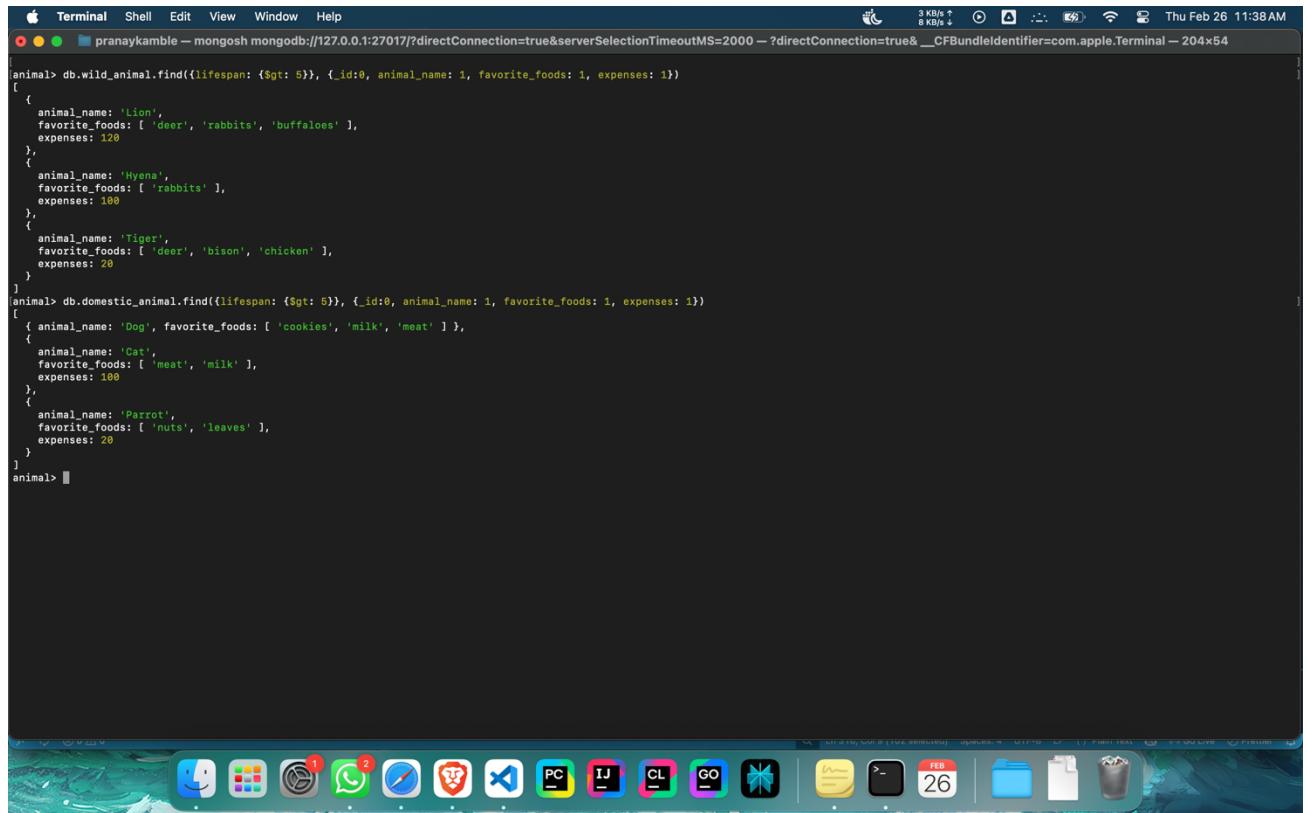
Faculty Name: Prof. S.Gopikrishnan

School: SCOPE

Student name:

Reg. no.:

-
10. Write a MongoDB query to display animal name, favorite_foods and expenses details whose lifespan is more than 5 years.



A screenshot of a Mac OS X desktop environment. In the center is a Terminal window titled "pranaykamble — mongosh mongodb://127.0.0.1:27017/?directConnection=true&serverSelectionTimeoutMS=2000 — ?directConnection=true&__CFBundleIdentifier=com.apple.Terminal — 204x54". The window displays two MongoDB queries and their results. The first query finds animals with a lifespan greater than 5 years from the "wild_animal" collection, and the second finds domestic animals with a lifespan greater than 5 years from the "domestic_animal" collection. Both queries include projections for animal_name, favorite_foods, and expenses. The results show various animals like Lion, Hyena, Tiger, Dog, Cat, and Parrot along with their food preferences and expense details. The desktop background is a dark blue gradient, and the Dock at the bottom features icons for various Mac applications like Finder, Mail, Safari, and others.

```
animal> db.wild_animal.find({lifespan: {$gt: 5}}, {_id:0, animal_name: 1, favorite_foods: 1, expenses: 1})
[
  {
    animal_name: 'Lion',
    favorite_foods: [ 'deer', 'rabbits', 'buffaloes' ],
    expenses: 120
  },
  {
    animal_name: 'Hyena',
    favorite_foods: [ 'rabbits' ],
    expenses: 100
  },
  {
    animal_name: 'Tiger',
    favorite_foods: [ 'deer', 'bison', 'chicken' ],
    expenses: 20
  }
]
animal> db.domestic_animal.find({lifespan: {$gt: 5}}, {_id:0, animal_name: 1, favorite_foods: 1, expenses: 1})
[
  { animal_name: 'Dog', favorite_foods: [ 'cookies', 'milk', 'meat' ] },
  {
    animal_name: 'Cat',
    favorite_foods: [ 'meat', 'milk' ],
    expenses: 100
  },
  {
    animal_name: 'Parrot',
    favorite_foods: [ 'nuts', 'leaves' ],
    expenses: 20
  }
]
animal> ||
```