

PRACTICAL 04

AIM :- AGGREGATION OF MONGODB

CODE & OUTPUT :-

Comparison Query Operator

Working with single field

1) \$lte

```
prac4> db.prac4Collection.find({fare : {"$lte":50}}, {_id:0 , name : 3 })
```

```
[{ name: 'Anderson, Mr. Harry' },  
 { name: 'Andrews, Mr. Thomas Jr' },  
 { name: 'Artagaveytia, Mr. Ramon' },  
 { name: 'Barkworth, Mr. Algernon Henry Wilson' },  
 { name: 'Baumann, Mr. John D' },  
 { name: 'Behr, Mr. Karl Howell' },  
 { name: 'Birnbaum, Mr. Jakob' },  
 { name: 'Bjornstrom-Steffansson, Mr. Mauritz Hakan' },  
 { name: 'Blackwell, Mr. Stephen Weart' },  
 { name: 'Blank, Mr. Henry' },  
 { name: 'Bonnell, Miss. Elizabeth' },  
 { name: 'Borebank, Mr. John James' },  
 { name: 'Bradley, Mr. George ("George Arthur Brayton")' },  
 { name: 'Brady, Mr. John Bertram' },  
 { name: 'Brewer, Dr. Arthur Jackson' },  
 { name: 'Brown, Mrs. James Joseph (Margaret Tobin)' },  
 { name: 'Butt, Major. Archibald Willingham' },  
 { name: 'Cairns, Mr. Alexander' },
```

\$lte and \$gt

```
prac4> db.prac4Collection.find({fare : {"$lte":100 , "$gt":50}}, {name : 3 , age : 5})
```

```
[
```

```
{
```

```
  _id: ObjectId("65d9be05bfd9f655f3718047"),
```

```
  name: 'Andrews, Miss. Kornelia Theodosia',
```

```
  age: 63
```

```
},
```

```
{
```

```
  _id: ObjectId("65d9be05bfd9f655f3718049"),
```

```
  name: 'Appleton, Mrs. Edward Dale (Charlotte Lamson)',
```

```
  age: 53
```

```
},
```

```
{
```

```
  _id: ObjectId("65d9be05bfd9f655f371804d"),
```

```
  name: 'Aubart, Mme. Leontine Pauline',
```

```
  age: 24
```

```
},
```

```
{
```

```
  _id: ObjectId("65d9be05bfd9f655f371804e"),
```

```
  name: 'Barber, Miss. Ellen "Nellie',
```

```
  age: 26
```

```
},
```

```
{
```

```
  _id: ObjectId("65d9be05bfd9f655f3718053"),
```

```
    name: 'Bazzani, Miss. Albina',
    age: 32
  },
  {
    _id: ObjectId("65d9be05bfd9f655f3718054"),
    name: 'Beattie, Mr. Thomson',
    age: 36
  },
  {
    _id: ObjectId("65d9be05bfd9f655f3718055"),
    name: 'Beckwith, Mr. Richard Leonard',
    age: 37
  },
  {
    _id: ObjectId("65d9be05bfd9f655f3718056"),
    name: 'Beckwith, Mrs. Richard Leonard (Sallie Monypeny)',
    age: 47
  },
  {
    _id: ObjectId("65d9be05bfd9f655f371805b"),
    name: 'Bishop, Mr. Dickinson H',
    age: 25
  },
  {
    _id: ObjectId("65d9be05bfd9f655f371805c"),
```

```
    name: 'Bishop, Mrs. Dickinson H (Helen Walton)',  
    age: 19  
  },  
]
```

Working with multiple fields

```
prac4> db.prac4Collection.find({age : {"$gt":50},  
fare:{"$gt":100}},{"name":  
3 , age : 5 })  
[  
  {  
    _id: ObjectId("65d9be05bfd9f655f3718073"),  
    name: 'Cardeza, Mrs. James Warburton Martinez (Charlotte Wardle  
Drake)',  
    age: 58  
  },  
  {  
    _id: ObjectId("65d9be05bfd9f655f37180b4"),  
    name: 'Fortune, Mr. Mark',  
    age: 64  
  },  
  {  
    _id: ObjectId("65d9be05bfd9f655f37180b5"),
```

```
    name: 'Fortune, Mrs. Mark (Mary McDougald)',
    age: 60
  },
  {
    _id: ObjectId("65d9be05bfd9f655f37180cc"),
    name: 'Graham, Mrs. William Thompson (Edith Junkins)',
    age: 58
  },
  {
    _id: ObjectId("65d9be05bfd9f655f3718101"),
    name: 'Lurette, Miss. Elise',
    age: 58
  },
  {
    _id: ObjectId("65d9be05bfd9f655f3718118"),
    name: 'Newell, Mr. Arthur Webster',
    age: 58
  },
  {
    _id: ObjectId("65d9be05bfd9f655f371813d"),
    name: 'Ryerson, Mr. Arthur Larned',
    age: 61
  },
```

```
{
  _id: ObjectId("65d9be05bfd9f655f3718155"),
  name: 'Spencer, Mr. William Augustus',
  age: 57
},
{
  _id: ObjectId("65d9be05bfd9f655f371815e"),
  name: 'Straus, Mr. Isidor',
  age: 67
},
{
  _id: ObjectId("65d9be05bfd9f655f371815f"),
  name: 'Straus, Mrs. Isidor (Rosalie Ida Blun)',
  age: 63
}, {
  _id: ObjectId("65d9be05bfd9f655f3718175"),
  name: 'White, Mrs. John Stuart (Ella Holmes)',
  age: 55
}, {
  _id: ObjectId("65d9be05bfd9f655f3718177"),
  name: 'Wick, Mr. George Dennick',
  age: 57
}
```

]

The "\$ne" query operator

```
prac4> db.prac4Collection.find({"body": {"$ne": ""}}, {"name": 3, age : 5, "body" : 13 })
```

[

{

 _id: ObjectId("65d9be05bfd9f655f3718044"),

 name: 'Allison, Mr. Hudson Joshua Creighton',

 age: 30,

 body: 135

},

{

 _id: ObjectId("65d9be05bfd9f655f371804a"),

 name: 'Artagaveytia, Mr. Ramon',

 age: 71,

 body: 22

},

{

 _id: ObjectId("65d9be05bfd9f655f371804b"),

 name: 'Astor, Col. John Jacob',

 age: 47,

 body: 124

},

{

 _id: ObjectId("65d9be05bfd9f655f371805a"),

```
name: 'Birnbaum, Mr. Jakob',
age: 25,
body: 148
},
{
  _id: ObjectId("65d9be05bfd9f655f3718068"),
  name: 'Brandeis, Mr. Emil',
  age: 48,
  body: 208
},
{
  _id: ObjectId("65d9be05bfd9f655f371807d"),
  name: 'Cavendish, Mr. Tyrell William',
  age: 36,
  body: 172
},
{
  _id: ObjectId("65d9be05bfd9f655f3718092"),
  name: 'Crosby, Capt. Edward Gifford',
  age: 70,
  body: 269
},
{
  _id: ObjectId("65d9be05bfd9f655f37180a1"),
  name: 'Douglas, Mr. Walter Donald',
```



```
    age: 50,  
    body: 62  
  },  
  {  
    _id: ObjectId("65d9be05bfd9f655f37180a6"),  
    name: 'Dulles, Mr. William Crothers',  
    age: 39,  
    body: 133  
  },  
  {  
    _id: ObjectId("65d9be05bfd9f655f37180c1"),  
    name: 'Gee, Mr. Arthur H',  
    age: 47,  
    body: 275  
  },  
  {  
    _id: ObjectId("65d9be05bfd9f655f37180cb"),  
    name: 'Graham, Mr. George Edward',  
    age: 38,  
    body: 147  
  },  
  {  
    _id: ObjectId("65d9be05bfd9f655f37180d7"),  
    name: 'Harrison, Mr. William',  
    age: 40,
```

body: 110

},

{

_id: ObjectId("65d9be05bfd9f655f37180db"),

name: 'Hays, Mr. Charles Melville',

age: 55,

body: 307

},

{

_id: ObjectId("65d9be05bfd9f655f37180e3"),

name: 'Holverson, Mr. Alexander Oskar',

age: 42,

body: 38

},

{

_id: ObjectId("65d9be05bfd9f655f37180ec"),

name: 'Jones, Mr. Charles Cresson',

age: 46,

body: 80

},

{

_id: ObjectId("65d9be05bfd9f655f37180ee"),

name: 'Keeping, Mr. Edwin',

age: 32.5,

body: 45

```
},  
{  
  _id: ObjectId("65d9be05bfd9f655f37180ef"),  
  name: 'Kent, Mr. Edward Austin',  
  age: 58,  
  body: 258  
},  
{  
  _id: ObjectId("65d9be05bfd9f655f37180fe"),  
  name: 'Long, Mr. Milton Clyde',  
  age: 29,  
  body: 126  
},  
{  
  _id: ObjectId("65d9be05bfd9f655f3718109"),  
  name: 'McCaffry, Mr. Thomas Francis',  
  age: 46,  
  body: 292  
}, {  
  _id: ObjectId("65d9be05bfd9f655f371810a"),  
  name: 'McCarthy, Mr. Timothy J',  
  age: 54,  
  body: 175  
}  
]
```

The "\$in" query operator

```
prac4> db.prac4Collection.find({"body": {"$in": 175}}, {"name": 3, age : 5  
,"body" : 13 })
```

MongoServerError: \$in needs an array

Array is Not in Datasets

LOGICAL OPERATORS

```
prac4> db.prac4Collection.find({"$or":[{"age":{"$gt":30}},{"fare":{"$gt":100  
}}]})
```

```
[ {  
  _id: ObjectId("65d9be05bfd9f655f3718041"),  
  pclass: 1,  
  survived: 1,  
  name: 'Allen, Miss. Elisabeth Walton',  
  sex: 'female',  
  age: 29,  
  sibsp: 0,  
  parch: 0,  
  ticket: 24160,  
  fare: 211.3375,  
  cabin: 'B5',  
  embarked: 'S',  
  boat: 2,  
  body: "",  
  'home.dest': 'St Louis, MO'
```

```
}, {  
  _id: ObjectId("65d9be05bfd9f655f3718042"),  
  pclass: 1,  
  survived: 1,  
  name: 'Allison, Master. Hudson Trevor',  
  sex: 'male',  
  age: 0.92,  
  sibsp: 1,  
  parch: 2,  
  ticket: 113781,  
  fare: 151.55,  
  cabin: 'C22 C26',  
  embarked: 'S',  
  boat: 11,  
  body: "",  
  'home.dest': 'Montreal, PQ / Chesterville, ON'  
}, {  
  _id: ObjectId("65d9be05bfd9f655f3718043"),  
  pclass: 1,  
  survived: 0,  
  name: 'Allison, Miss. Helen Lorraine',  
  sex: 'female',  
  age: 2,  
  sibsp: 1,  
  parch: 2,
```

```
ticket: 113781,  
fare: 151.55,  
cabin: 'C22 C26',  
embarked: 'S',  
boat: "",  
body: "",  
'home.dest': 'Montreal, PQ / Chesterville, ON'  
}, {  
  _id: ObjectId("65d9be05bfd9f655f3718044"),  
  pclass: 1,  
  survived: 0,  
  name: 'Allison, Mr. Hudson Joshua Creighton',  
  sex: 'male',  
  age: 30,  
  sibsp: 1,  
  parch: 2,  
  ticket: 113781,  
  fare: 151.55,  
  cabin: 'C22 C26',  
  embarked: 'S',  
  boat: "",  
  body: 135,  
  'home.dest': 'Montreal, PQ / Chesterville, ON'  
},
```

AND OPERATOR

```
prac4> db.prac4Collection.find({"body":{"$lt":50},"body":{"$ne":null}})
```

```
[
```

```
{
```

```
  _id: ObjectId("65d9be05bfd9f655f3718041"),
```

```
  pclass: 1,
```

```
  survived: 1,
```

```
  name: 'Allen, Miss. Elisabeth Walton',
```

```
  sex: 'female',
```

```
  age: 29,
```

```
  sibsp: 0,
```

```
  parch: 0,
```

```
  ticket: 24160,
```

```
  fare: 211.3375,
```

```
  cabin: 'B5',
```

```
  embarked: 'S',
```

```
  boat: 2,
```

```
  body: "",
```

```
  'home.dest': 'St Louis, MO'
```

```
},
```

```
{
```

```
  _id: ObjectId("65d9be05bfd9f655f3718042"),
```

```
  pclass: 1,
```

```
  survived: 1,
```

```
  name: 'Allison, Master. Hudson Trevor',
```

```
sex: 'male',
age: 0.92,
sibsp: 1,
parch: 2,
ticket: 113781,
fare: 151.55,
cabin: 'C22 C26',
embarked: 'S',
boat: 11,
body: "",
'home.dest': 'Montreal, PQ / Chesterville, ON'
},
{
  _id: ObjectId("65d9be05bfd9f655f3718043"),
  pclass: 1,
  survived: 0,
  name: 'Allison, Miss. Helen Lorraine',
  sex: 'female',
  age: 2,
  sibsp: 1,
  parch: 2,
  ticket: 113781,
  fare: 151.55,
  cabin: 'C22 C26',
  embarked: 'S',
```



```
boat: ",  
body: ",  
  'home.dest': 'Montreal, PQ / Chesterville, ON'  
},  
{  
  _id: ObjectId("65d9be05bfd9f655f3718044"),  
  pclass: 1,  
  survived: 0,  
  name: 'Allison, Mr. Hudson Joshua Creighton',  
  sex: 'male',  
  age: 30,  
  sibsp: 1,  
  parch: 2,  
  ticket: 113781,  
  fare: 151.55,  
  cabin: 'C22 C26',  
  embarked: 'S',  
  boat: ",  
  body: 135,  
  'home.dest': 'Montreal, PQ / Chesterville, ON'  
},
```

ELEMENT OPERATORS

USING EXIST

```
prac4> db.prac4Collection.count({"age":{"$exists":true}})
```

DeprecationWarning: Collection.count() is deprecated. Use countDocuments or estimatedDocumentCount.

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USING TYPE

```
prac4> db.prac4Collection.find({"age":{"$type":"number"}}).pretty()
```

[

{

 _id: ObjectId("65d9be05bfd9f655f3718041"),

 pclass: 1,

 survived: 1,

 name: 'Allen, Miss. Elisabeth Walton',

 sex: 'female',

 age: 29,

 sibsp: 0,

 parch: 0,

 ticket: 24160,

 fare: 211.3375,

 cabin: 'B5',

 embarked: 'S',

 boat: 2,

 body: "",

```
'home.dest': 'St Louis, MO'
},
{
  _id: ObjectId("65d9be05bfd9f655f3718042"),
  pclass: 1,
  survived: 1,
  name: 'Allison, Master. Hudson Trevor',
  sex: 'male',
  age: 0.92,
  sibsp: 1,
  parch: 2,
  ticket: 113781,
  fare: 151.55,
  cabin: 'C22 C26',
  embarked: 'S',
  boat: 11,
  body: "",
  'home.dest': 'Montreal, PQ / Chesterville, ON'
},
```