ADBMS Practical 4

Importing the dataset in mongo shell

```
C:\Users\SAKSHI>mongoimport "C:\Users\SAKSHI\Downloads\world.json" -d world_cup -c cup --jsonArray --drop
2024-03-01T20:08:39.094+0530    connected to: mongodb://localhost/
2024-03-01T20:08:39.097+0530    dropping: world_cup.cup
2024-03-01T20:08:39.119+0530    64 document(s) imported successfully. 0 document(s) failed to import.

C:\Users\SAKSHI>
```

Comparison Operators

$lte

```
world_cup> db.cup.find({ HomeTeamScore: { $lte: 2 } } )
[
  {
    _id: ObjectId('65e1e86f8082de304b619ecf'),
    MatchNumber: 1,
    RoundNumber: 1,
    DateUtc: '2022-11-20 16:00:00Z',
    Location: 'Al Bayt Stadium',
    HomeTeam: 'Qatar',
    AwayTeam: 'Ecuador',
    Group: 'Group A',
    HomeTeamScore: 0,
    AwayTeamScore: 2
  },
  {
    _id: ObjectId('65e1e86f8082de304b619ed0'),
    MatchNumber: 8,
    RoundNumber: 1,
    DateUtc: '2022-11-22 10:00:00Z',
    Location: 'Lusail Stadium',
    HomeTeam: 'Argentina',
    AwayTeam: 'Saudi Arabia',
    Group: 'Group C',
    HomeTeamScore: 1,
    AwayTeamScore: 2
  },
  {
    _id: ObjectId('65e1e86f8082de304b619ed1'),
    MatchNumber: 6,
    RoundNumber: 1,
    DateUtc: '2022-11-22 13:00:00Z',
    Location: 'Education City Stadium',
    HomeTeam: 'Denmark',
    AwayTeam: 'Tunisia',
    Group: 'Group D',
    HomeTeamScore: 0,
    AwayTeamScore: 0
  },
```

$ne

```
world_cup> db.cup.find({'Group': {'$ne': 'Group E'}})
[
  {
    _id: ObjectId('65e1e86f8082de304b619ece'),
    MatchNumber: 3,
    RoundNumber: 1,
    DateUtc: '2022-11-21 13:00:00Z',
    Location: 'Khalifa International Stadium',
    HomeTeam: 'England',
    AwayTeam: 'Iran',
    Group: 'Group B',
    HomeTeamScore: 6,
    AwayTeamScore: 2
  },
  {
    _id: ObjectId('65e1e86f8082de304b619ecf'),
    MatchNumber: 1,
    RoundNumber: 1,
    DateUtc: '2022-11-20 16:00:00Z',
    Location: 'Al Bayt Stadium',
    HomeTeam: 'Qatar',
    AwayTeam: 'Ecuador',
    Group: 'Group A',
    HomeTeamScore: 0,
    AwayTeamScore: 2
  },
```

$in

```
world_cup> db.cup.find({'HomeTeam': {'$in': ['France']}})
[
  {
    _id: ObjectId('65e1e86f8082de304b619ed3'),
    MatchNumber: 5,
    RoundNumber: 1,
    DateUtc: '2022-11-22 19:00:00Z',
    Location: 'Al Janoub Stadium',
    HomeTeam: 'France',
    AwayTeam: 'Australia',
    Group: 'Group D',
    HomeTeamScore: 4,
    AwayTeamScore: 1
  },
  {
    _id: ObjectId('65e1e86f8082de304b619ee3'),
    MatchNumber: 23,
    RoundNumber: 2,
    DateUtc: '2022-11-26 16:00:00Z',
    Location: 'Stadium 974',
    HomeTeam: 'France',
    AwayTeam: 'Denmark',
    Group: 'Group D',
    HomeTeamScore: 2,
    AwayTeamScore: 1
  },
```

Logical Operator

$and

```
world_cup>

world_cup> db.cup.find({'$and':[{'HomeTeam':'France'},{'HomeTeamScore':2}]})
[
  {
    _id: ObjectId('65e1e86f8082de304b619ee3'),
    MatchNumber: 23,
    RoundNumber: 2,
    DateUtc: '2022-11-26 16:00:00Z',
    Location: 'Stadium 974',
    HomeTeam: 'France',
    AwayTeam: 'Denmark',
    Group: 'Group D',
    HomeTeamScore: 2,
    AwayTeamScore: 1
  },
  {
    _id: ObjectId('65e1e86f8082de304b619f0b'),
    MatchNumber: 62,
    RoundNumber: 6,
    DateUtc: '2022-12-14 19:00:00Z',
    Location: 'Al Bayt Stadium',
    HomeTeam: 'France',
    AwayTeam: 'Morocco',
    Group: null,
    HomeTeamScore: 2,
    AwayTeamScore: 0
  }
]
world_cup>
```

$or

```
world_cup> db.cup.find({'$or':[{'HomeTeam':'France'},{'HomeTeamScore':2}]})
[
  {
    _id: ObjectId('65e1e86f8082de304b619ed3'),
    MatchNumber: 5,
    RoundNumber: 1,
    DateUtc: '2022-11-22 19:00:00Z',
    Location: 'Al Janoub Stadium',
    HomeTeam: 'France',
    AwayTeam: 'Australia',
    Group: 'Group D',
    HomeTeamScore: 4,
    AwayTeamScore: 1
  },
  {
    _id: ObjectId('65e1e86f8082de304b619ee1'),
    MatchNumber: 16,
    RoundNumber: 1,
    DateUtc: '2022-11-24 19:00:00Z',
    Location: 'Lusail Stadium',
    HomeTeam: 'Brazil',
    AwayTeam: 'Serbia',
    Group: 'Group G',
    HomeTeamScore: 2,
    AwayTeamScore: 0
  },
```

Element Operators

$exists

```
world_cup> db.cup.estimatedDocumentCount({'Group D': {'$exists':true}})
64
world_cup>
```

$type

```
world_cup> db.cup.find({'Group': {'$type': 'null'}})
[
  {
    _id: ObjectId('65e1e86f8082de304b619efc'),
    MatchNumber: 49,
    RoundNumber: 4,
    DateUtc: '2022-12-03 15:00:00Z',
    Location: 'Khalifa International Stadium',
    HomeTeam: 'Netherlands',
    AwayTeam: 'USA',
    Group: null,
    HomeTeamScore: 3,
    AwayTeamScore: 1
  },
  {
    _id: ObjectId('65e1e86f8082de304b619efe'),
    MatchNumber: 52,
    RoundNumber: 4,
    DateUtc: '2022-12-04 15:00:00Z',
    Location: 'Al Thumama Stadium',
    HomeTeam: 'France',
    AwayTeam: 'Poland',
    Group: null,
    HomeTeamScore: 3,
    AwayTeamScore: 1
  },
```

Array Operators

$all

```
world_cup> db.cup.find({'AwayTeam': {'$all': ['France','Spain']}})
```