

ASSIGNMENT – VIII

TITLE :

MongoDB – Aggregation and Indexing: Design and Develop MongoDB
Queries using aggregation and indexing with suitable example using MongoDB.

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```
>_MONGOSH
> use comp;
< switched to db comp
> db.createCollection('website');
< { ok: 1 }
> db.website.insert({'roll':1,'name':'harsh','amount':1000,'url':'www.yahoo.com'});
< DeprecationWarning: Collection.insert() is deprecated. Use insertOne, insertMany, or bulkWrite.
< {
    acknowledged: true,
    insertedIds: [
        '0': ObjectId('67ee543dc450bd8f2be1d37c')
    ]
}
> db.website.insert({'roll':2,'name':'jitesh','amount':2000,'url':'www.yahoo.com'});
< {
    acknowledged: true,
    insertedIds: [
        '0': ObjectId('67ee5469c450bd8f2be1d37d')
    ]
}
> db.website.insert({'roll':3,'name':'rina','amount':3000,'url':'www.google.com'});
< {
    acknowledged: true,
    insertedIds: [
        '0': ObjectId('67ee547bc450bd8f2be1d37e')
    ]
}
> db.website.insert({'roll':4,'name':'ash','amount':4000,'url':'www.gmail.com'});
< {
    acknowledged: true,
    insertedIds: [
        '0': ObjectId('67ee5499c450bd8f2be1d37f')
    ]
}
> db.website.insert({'roll':5,'name':'ash','amount':1000,'url':'www.pvg.com'});
< {
    acknowledged: true,
    insertedIds: [
        '0': ObjectId('67ee54a4c450bd8f2be1d380')
    ]
}
```

```
> db.website.aggregate({$group:{_id:"$name","total":{$sum:"$amount"}}});
< [
  {
    _id: 'ash',
    total: 5000
  }
]
{
  {
    _id: 'rina',
    total: 3000
  }
}
{
  {
    _id: 'jitesh',
    total: 2000
  }
}
{
  {
    _id: 'harsh',
    total: 1000
  }
}
> db.website.aggregate({$group:{_id:"$name","total":{$avg:"$amount"}}});
< [
  {
    _id: 'ash',
    total: 2500
  }
]
{
  {
    _id: 'rina',
    total: 3000
  }
}
{
  {
    _id: 'jitesh',
    total: 2000
  }
}
{
  {
    _id: 'harsh',
    total: 1000
  }
}
> db.website.aggregate({$group:{_id:"$name","total":{$min:"$amount"}}});
```

```
< {
  _id: 'ash',
  total: 1000
}
{
  _id: 'rina',
  total: 3000
}
{
  _id: 'jitesh',
  total: 2000
}
{
  _id: 'harsh',
  total: 1000
}
> db.website.aggregate({$group:{_id:"$name","total":{$max:"$amount"}}});
< {
  _id: 'ash',
  total: 4000
}
{
  _id: 'rina',
  total: 3000
}
{
  _id: 'jitesh',
  total: 2000
}
{
  _id: 'harsh',
  total: 1000
}
> db.website.aggregate({$group:{_id:"$name","total":{$first:"$amount"}}});
< {
  _id: 'ash',
  total: 4000
}
```

```
{
  {
    _id: 'rina',
    total: 3000
  }
}
{
  {
    _id: 'jitesh',
    total: 2000
  }
}
{
  {
    _id: 'harsh',
    total: 1000
  }
}
> db.website.aggregate({$group:{_id:"$name","total":{$last:"$amount"}}});
< [
  {
    _id: 'ash',
    total: 1000
  }
]
{
  {
    _id: 'rina',
    total: 3000
  }
}
{
  {
    _id: 'jitesh',
    total: 2000
  }
}
{
  {
    _id: 'harsh',
    total: 1000
  }
}
> db.website.aggregate({$group:{_id:"$name","total":{$push:"$amount"}}});
< [
  {
    _id: 'ash',
    total: [
      4000,
      1000
    ]
  }
]
```

```
_id: 'rina',
total: [
  3000
]
}
{
  _id: 'jitesh',
  total: [
    2000
  ]
}
{
  _id: 'harsh',
  total: [
    1000
  ]
}
> db.website.aggregate({$group:{_id:"$name","total": {$sum:1}}});
< [
  {
    _id: 'ash',
    total: 2
  }
  {
    _id: 'rina',
    total: 1
  }
  {
    _id: 'jitesh',
    total: 1
  }
  {
    _id: 'harsh',
    total: 1
  }
]
```

```
> db.website.aggregate({$group:{_id:"$name","total":{$addToSet:"$amount"}}});
< [
  {
    _id: 'ash',
    total: [
      1000,
      4000
    ]
  },
  {
    _id: 'rina',
    total: [
      3000
    ]
  },
  {
    _id: 'jitesh',
    total: [
      2000
    ]
  },
  {
    _id: 'harsh',
    total: [
      1000
    ]
  }
]
> db.createCollection('website1');
< { ok: 1 }
> db.website1.insert({'r':1,'name':'harsh'});
< {
  acknowledged: true,
  insertedIds: {
    '0': ObjectId('67ee55b9c450bd8f2be1d381')
  }
}
> db.website1.find().pretty()
< [
  {
    _id: ObjectId('67ee55b9c450bd8f2be1d381'),
    r: 1,
    name: 'harsh'
  }
]
> db.website1.createIndex({'name':1})
< name_1
> db.website1.createIndex({'name':-1})
< name_-1
```

```

> db.website1.getIndexes()
< [
  { v: 2, key: { _id: 1 }, name: '_id_', ns: 'comp.website1' },
  { v: 2, key: { name: 1 }, name: 'name_1', ns: 'comp.website1' },
  { v: 2, key: { name: -1 }, name: 'name_-1', ns: 'comp.website1' }
]
> db.website1.createIndex({'name':-1})
< name_-1

> db.website1.getIndexes()
< [
  { v: 2, key: { _id: 1 }, name: '_id_', ns: 'comp.website1' },
  { v: 2, key: { name: 1 }, name: 'name_1', ns: 'comp.website1' },
  { v: 2, key: { name: -1 }, name: 'name_-1', ns: 'comp.website1' }
]
> db.website1.find().pretty()
< [
  {
    _id: ObjectId('67ee55b9c450bd8f2be1d381'),
    r: 1,
    name: 'harsh'
  }
]
> db.website1.createIndex({'name':1})
< name_1

> db.website1.dropIndex({'name':1})
< { nIndexesWas: 3, ok: 1 }
> db.website1.getIndexes()
< [
  { v: 2, key: { _id: 1 }, name: '_id_', ns: 'comp.website1' },
  { v: 2, key: { name: -1 }, name: 'name_-1', ns: 'comp.website1' }
]
> db.website1.createIndex({'name':1,'r':-1})
< name_1_r_-1
> db.website1.getIndexes()
< [
  { v: 2, key: { _id: 1 }, name: '_id_', ns: 'comp.website1' },
  { v: 2, key: { name: -1 }, name: 'name_-1', ns: 'comp.website1' },
  {
    v: 2,
    key: { name: 1, r: -1 },
    name: 'name_1_r_-1',
    ns: 'comp.website1'
  }
]

```