CASE Study : **Restaurant Data - ZOMATO**

Affan Mohammed N M

281911

1 Number of orders in each Location

```
db.restaurant.aggregate([
    {
        $group: { _id: "$location", numOrders: { $sum: 1 } }
    },
    {
        $sort: { numOrders: -1 }
    }
])
```

```
[
  { _id: 'BTM', numOrders: 5124 },
  { _id: 'HSR', numOrders: 2523 },
  { _id: 'Koramangala 5th Block', numOrders: 2504 },
  { _id: 'JP Nagar', numOrders: 2235 },
  { _id: 'Whitefield', numOrders: 2144 },
  { _id: 'Indiranagar', numOrders: 2083 },
  { _id: 'Jayanagar', numOrders: 1926 },
  { _id: 'Marathahalli', numOrders: 1846 },
  { _id: 'Bannerghatta Road', numOrders: 1630 },
  { _id: 'Bellandur', numOrders: 1286 },
  { _id: 'Electronic City', numOrders: 1258 },
  { _id: 'Koramangala 1st Block', numOrders: 1238 },
  { _id: 'Brigade Road', numOrders: 1218 },
  { _id: 'Koramangala 7th Block', numOrders: 1181 },
  { _id: 'Koramangala 6th Block', numOrders: 1156 },
  { _id: 'Sarjapur Road', numOrders: 1065 },
  { _id: 'Ulsoor', numOrders: 1023 },
  { _id: 'Koramangala 4th Block', numOrders: 1017 },
  { _id: 'MG Road', numOrders: 918 },
  { _id: 'Banashankari', numOrders: 906 }
]
```

2 Find total number of hotels in Bangalore and list top 5 rated
```
db.restaurant.aggregate([
        {$group: {_id: "$name",total: {$sum : 1}}},
        {$sort : {total: -1}},
        {$limit : 5}
])
```

```
zomato> db.restaurant.aggregate([
...      {$group: {_id: "$name",total: {$sum : 1}}},
...      {$sort : {total: -1}},
...      {$limit : 5}
... ])
[
  { _id: 'Cafe Coffee Day', total: 96 },
  { _id: 'Onesta', total: 85 },
  { _id: 'Just Bake', total: 73 },
  { _id: 'Empire Restaurant', total: 71 },
  { _id: 'Five Star Chicken', total: 70 }
]
zomato>
```

3 Find the most liked dishes by the customer

```
db.restaurant.aggregate([
   { $unwind: "$dish_liked" },
   { $group: { _id: "$dish_liked", count: { $sum: 1 } } },
   { $sort: { count: -1 } },
   { $limit: 10 }
])
```

```
Type  it  for more
zomato> db.restaurant.aggregate([
...      { $unwind: "$dish_liked" },
...      { $group: { _id: "$dish_liked", count: { $sum: 1 } } },
...      { $sort: { count: -1 } },
...      { $limit: 10 }
... ])
[
  { _id: 'Biryani', count: 182 },
  { _id: 'Chicken Biryani', count: 73 },
  { _id: 'Friendly Staff', count: 69 },
  { _id: 'Waffles', count: 68 },
  { _id: 'Paratha', count: 57 },
  { _id: 'Masala Dosa', count: 56 },
  { _id: 'Rooftop Ambience', count: 42 },
  { _id: 'Coffee', count: 42 },
  { _id: 'Pizza', count: 38 },
  { _id: 'Burgers', count: 33 }
]
zomato>
```

4 Find total Sales in each hotel.
```
db.restaurant.aggregate([
{        $group:{_id:"$name", totalSales:{$sum:"$approx_cost(for two people)"}}},
{        $sort:{totalSales:-1}}
])
```

```
zomato> db.restaurant.aggregate([
... {   $group:{_id:"$name", totalSales:{$sum:"$approx_cost(for two people)"}}},
... {   $sort:{totalSales:-1}}
... ])
[
  { _id: 'Cafe Coffee Day', totalSales: 81100 },
  { _id: 'Smoor', totalSales: 51100 },
  { _id: 'Onesta', totalSales: 51000 },
  { _id: 'Empire Restaurant', totalSales: 48650 },
  { _id: 'Pizza Hut', totalSales: 45650 },
  { _id: 'Beijing Bites', totalSales: 45300 },
  { _id: 'Petoo', totalSales: 43550 },
  { _id: 'Truffles', totalSales: 38700 },
  { _id: "Mani's Dum Biryani", totalSales: 35250 },
  { _id: "Smally's Resto Cafe", totalSales: 35100 },
  { _id: 'Subway', totalSales: 33700 },
  { _id: 'Burger King', totalSales: 32700 },
  { _id: 'Mudpipe Cafe', totalSales: 31950 },
  { _id: 'Chung Wah', totalSales: 30450 },
  { _id: 'The Chocolate Heaven', totalSales: 30400 },
  { _id: 'Sweet Truth', totalSales: 30000 },
  { _id: 'New Prashanth Hotel', totalSales: 29900 },
  { _id: "Domino's Pizza", totalSales: 29600 },
  { _id: "McDonald's", totalSales: 29500 },
  { _id: 'Pizza Stop', totalSales: 29500 }
]
Type "it" for more
zomato>
```

5 Find Which hotels has highest number of customers

```
db.restaurant.aggregate(
{$group:{_id:"$name", customerCount:{$sum:1}}},
{$sort:{customerCount:-1}},
{$limit:10}
)
```

```
zomato> db.restaurant.aggregate(
... {$group:{_id:"$name", customerCount:{$sum:1}}},
... {$sort:{customerCount:-1}},
... {$limit:10}
... )
[
  { _id: 'Cafe Coffee Day', customerCount: 96 },
  { _id: 'Onesta', customerCount: 85 },
  { _id: 'Just Bake', customerCount: 73 },
  { _id: 'Empire Restaurant', customerCount: 71 },
  { _id: 'Five Star Chicken', customerCount: 70 },
  { _id: 'Kanti Sweets', customerCount: 68 },
  { _id: 'Petoo', customerCount: 66 },
  { _id: 'Polar Bear', customerCount: 65 },
  { _id: 'Baskin Robbins', customerCount: 64 },
  { _id: "Chef Baker's", customerCount: 62 }
]
zomato>
```

6 Find total sales of each dish in each hotel

```
db.restaurant.aggregate([
{$match:{dish_liked:{$ne:null}}},
{$group:{_id:{name:"$name",dish_liked:"$dish_liked"},
total_sales:{$sum:"$approx_cost(for two people)"}}},
{$sort:{"_id.name":1, total_sales:-1}}
])
```

```
zomato> db.restaurant.aggregate([
... {$match:{dish_liked:{$ne:null}}},
... {$group:{_id:{name:"$name",dish_liked:"$dish_liked"},
... total_sales:{$sum:"$approx_cost(for two people)"}}},
... {$sort:{"_id.name":1, total_sales:-1}}
... ])
[
  {
    _id: {
      name: 1947,
      dish_liked: 'Palak Paneer, Aam Panna, Crispy Corn, Gajar Ka Halwa, Panipuri, Kulfi, Salads'
    },
    total_sales: 4750
  },
  {
    _id: {
      name: 1947,
      dish_liked: 'Jal-jeera, Roti, Dhokla, Biryani, Kheer, Chaach, Dal Tadka'
    },
    total_sales: 2850
  },
  {
    _id: {
      name: 1947,
      dish_liked: 'Salads, Panneer Butter Masala, Rabri, Gajar Ka Halwa, Manchow Soup, Aam Panna, Tomato Basil Soup'
    },
    total_sales: 1700
  },
  {
    _id: {
      name: 1947,
      dish_liked: 'Pasta, Tomato Soup, Salad, Kulcha, Chaat, Kulfi, Panipuri'
    },
    total_sales: 950
  },
  {
    _id: {
      name: 1947,
      dish_liked: 'Manchurian, Vegetarian, Sweet Corn Soup, Paneer Tikka, Noodles, Rabri, Veg Fried Rice'
    },
    total_sales: 0
```

7 Find the hotels which has menu and which don't have menu
```
db.restaurant.find({menu_item:{$exists:true, $eq:[]}},{name:1, _id:0})
db.restaurant.find({menu_item:{$exists:true, $ne:[]}},{name:1, _id:0})
```

```
[
  { name: 'Jalsa' },
  { name: 'Spice Elephant' },
  { name: 'San Churro Cafe' },
  { name: 'Addhuri Udupi Bhojana' },
  { name: 'Grand Village' },
  { name: 'Timepass Dinner' },
  { name: 'Rosewood International Hotel - Bar & Restaurant' },
  { name: 'Onesta' },
  { name: 'Penthouse Cafe' },
  { name: 'Smacznego' },
  {
    name: 'CafÃ\x83Ã\x83Ã\x82Ã\x83Ã\x83Ã\x82Ã\x82Ã\x83Ã\x83Ã\x83Ã\x82Ã\x82Ã\x83Ã\x82Ã\x82Â© Down The Alley'
  },
  { name: 'Cafe Shuffle' },
  { name: 'The Coffee Shack' },
  { name: 'Caf-Eleven' },
  { name: 'San Churro Cafe' },
  { name: 'Cafe Vivacity' },
  { name: 'Catch-up-ino' },
  { name: "Kirthi's Biryani" },
  { name: 'T3H Cafe' },
  { name: '360 Atoms Restaurant And Cafe' }
]
```

```
[
  { name: 'Sweet Truth' },
  { name: 'Faasos' },
  { name: 'Maruthi Davangere Benne Dosa' },
  { name: 'Kitchen Garden' },
  { name: 'Recipe' },
  { name: 'Tasty Bytes' },
  { name: 'Shree Cool Point' },
  { name: 'FreshMenu' },
  { name: "Namma Brahmin's Idli" },
  { name: 'Sri Guru Kottureshwara Davangere Benne Dosa' },
  { name: 'Bengaluru Coffee House' },
  { name: 'Anna Kuteera' },
  { name: 'Vijayalakshmi' },
  { name: 'Sri Udupi Food Hub' },
  { name: 'Udupi Upahar' },
  { name: "New Gowda's Fried Chicken" },
  { name: 'HOT COFFEE' },
  { name: 'Sagar Deluxe' },
  { name: 'Grazers' },
  { name: 'By 2 Coffee' }
]
```

8 Find the average sales in each town in Bangalore and sort the result location wise

```
db.restaurant.aggregate([
{        $group:{_id:"$listed_in(city)",
         average_amount:{$avg:"$approx_cost(for two people)"}}
},
{$sort:{"_id":-1}}
])
```

```
zomato> db.restaurant.aggregate([
... {    $group:{_id:"$listed_in(city)",
...      average_amount:{$avg:"$approx_cost(for two people)"}}
... },
... {$sort:{"_id":-1}}
... ])
[
  { _id: 'Whitefield', average_amount: 423.99421128798843 },
  { _id: 'Sarjapur Road', average_amount: 427.1376811594203 },
  { _id: 'Residency Road', average_amount: 420.6663815226689 },
  { _id: 'Rajajinagar', average_amount: 379.485834207765 },
  { _id: 'Old Airport Road', average_amount: 417.0201577563541 },
  { _id: 'New BEL Road', average_amount: 399.1279069767442 },
  { _id: 'Marathahalli', average_amount: 418.2536520584329 },
  { _id: 'Malleshwaram', average_amount: 406.2113127001067 },
  { _id: 'MG Road', average_amount: 430.82223962411905 },
  { _id: 'Lavelle Road', average_amount: 423.00158856235106 },
  { _id: 'Koramangala 7th Block', average_amount: 414.7888975762314 },
  { _id: 'Koramangala 6th Block', average_amount: 420.2173913043478 },
  { _id: 'Koramangala 5th Block', average_amount: 414.97365220916095 },
  { _id: 'Koramangala 4th Block', average_amount: 427.1937730438345 },
  { _id: 'Kammanahalli', average_amount: 420.6924315619968 },
  { _id: 'Kalyan Nagar', average_amount: 425.9046052631579 },
  { _id: 'Jayanagar', average_amount: 412.3905109489051 },
  { _id: 'JP Nagar', average_amount: 407.3459958932238 },
  { _id: 'Indiranagar', average_amount: 424.781121751026 },
  { _id: 'HSR', average_amount: 425.50995024875624 }
]
```

9 Find the hotels which has rating > 4.5 and cost < 500

```
db.restaurant.aggregate([
{ $match: { $expr: { $and: [ { $regexMatch: { input: "$rate", regex: /^[0-9]\.[0-9]+\/[0-9]+$/ } },
  { $gt: [{ $toDouble: { $arrayElemAt: [{ $split: ["$rate", "/"] }, 0] } }, 4.5] }] }, "approx_cost(for
two people)": {$lt: 500}}},
{ $project: { "name": 1, "rate": 1, "approx_cost(for two people)": 1, "cuisines": 1 } }])
```

```
[
  {
    _id: ObjectId('6672bbcb89c4f4132b3e0f68'),
    name: 'The Blue Wagon - Kitchen',
    rate: '4.6/5',
    cuisines: 'Cafe, Beverages',
    'approx_cost(for two people)': 400
  },
  {
    _id: ObjectId('6672bbcb89c4f4132b3e113c'),
    name: 'Taaza Thindi',
    rate: '4.7/5',
    cuisines: 'South Indian',
    'approx_cost(for two people)': 100
  },
  {
    _id: ObjectId('6672bbce89c4f4132b3e1898'),
    name: 'The Blue Wagon - Kitchen',
    rate: '4.6/5',
    cuisines: 'Cafe, Beverages',
    'approx_cost(for two people)': 400
  },
  {
    _id: ObjectId('6672bbce89c4f4132b3e1a12'),
    name: 'The Blue Wagon - Kitchen',
    rate: '4.6/5',
    cuisines: 'Cafe, Beverages',
    'approx_cost(for two people)': 400
  },
  {
    _id: ObjectId('6672bbcf89c4f4132b3e1bce'),
    name: "Brahmin's Coffee Bar",
    rate: '4.8/5',
    cuisines: 'South Indian',
    'approx_cost(for two people)': 100
  },
  {
    _id: ObjectId('6672bbcf89c4f4132b3e1c66'),
    name: 'The Blue Wagon - Kitchen',
    rate: '4.6/5', Davangere Benne Dosa' },
    cuisines: 'Cafe, Beverages',
```

10 Find the best rated hotels ,calculate the total votes and sort it in descending order of votes

```
db.restaurant.aggregate([
{$match: { $expr: { $and: [{ $regexMatch: { input: "$rate", regex: /^[0-9]\.[0-9]+\/[0-9]+$/ }},
{$not: { $in: ["$rate", ["NEW"]] } }]}}},
 { $addFields: { numericRating: { $toDouble: { $arrayElemAt: [{ $split: ["$rate", "/"] }, 0] }}}},
 { $group: { _id: "$name", averageRating: { $avg: "$numericRating" }, totalVotes: { $sum:
"$votes" }}},
 { $sort: { averageRating: -1, totalVotes: -1 } },
 { $project: { _id: 0, name: "$_id", averageRating: 1, totalVotes: 1 }}
])
```

```
{
  averageRating: 4.9,
  totalVotes: 49035,
  name: 'Byg Brewski Brewing Company'
},
{
  averageRating: 4.9,
  totalVotes: 15352,
  name: 'Asia Kitchen By Mainland China'
},
{ averageRating: 4.9, totalVotes: 5490, name: 'Flechazo' },
{ averageRating: 4.9, totalVotes: 518, name: 'Punjab Grill' },
{
  averageRating: 4.84,
  totalVotes: 12656,
  name: 'Belgian Waffle Factory'
},
{ averageRating: 4.8, totalVotes: 5172, name: 'The Pizza Bakery' },
{
  averageRating: 4.8,
  totalVotes: 2679,
  name: "Brahmin's Coffee Bar"
},
{
  averageRating: 4.790909090909091,
  totalVotes: 42492,
  name: "AB's - Absolute Barbecues"
},
{
  averageRating: 4.7625,
  totalVotes: 32720,
  name: 'House Of Commons'
},
{
  averageRating: 4.742857142857143,
  totalVotes: 62788,
  name: 'The Black Pearl'
},
{ averageRating: 4.7, totalVotes: 84054, name: 'Hammered' },
```

```
{ averageRating: 4.7, totalVotes: 84054, name: 'Hammered' },
{ averageRating: 4.7, totalVotes: 36144, name: 'Big Pitcher' },
{ averageRating: 4.7, totalVotes: 29912, name: 'Toit' },
{ averageRating: 4.7, totalVotes: 20235, name: 'TBC Sky Lounge' },
{ averageRating: 4.7, totalVotes: 15628, name: 'Communiti' },
{ averageRating: 4.7, totalVotes: 13741, name: 'Biergarten' },
{
  averageRating: 4.7,
  totalVotes: 5746,
  name: 'Brew and Barbeque - A Microbrewery Pub'
},
{ averageRating: 4.7, totalVotes: 3197, name: 'ECHOES Koramangala' },
{ averageRating: 4.7, totalVotes: 3188, name: 'Burma Burma' },
{ averageRating: 4.7, totalVotes: 1068, name: 'The Big Barbeque' }
]
```

11 Delete the column dish_liked from the collection

db.restaurant.updateMany({}, { $unset: { dish_liked: "" } })

```
zomato> db.restaurant.updateMany( {}, { $unset: { dish_liked: "" } } )
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 51717,
  modifiedCount: 23639,
  upsertedCount: 0
}
zomato>
```

12 find the same named restaurants using $text and $Search

db.restaurant.createIndex({ name: "text" });

```
zomato> db.restaurant.createIndex({ name: "text" });
name_text
```

db.restaurant.find({ $text: { $search: "\"T3H Cafe\"" } });