

# MongoDB

## Assignment-2

```
> use population
switched to db population
> show collections
zipcodes
> db.zipcodes.find()
{ "_id" : "01001", "city" : "AGAWAM", "loc" : [ -72.622739, 42.070206 ], "pop" : 15338, "state" : "MA" }
{ "_id" : "01002", "city" : "CUSHMAN", "loc" : [ -72.51565, 42.377017 ], "pop" : 36963, "state" : "MA" }
{ "_id" : "01005", "city" : "BARRE", "loc" : [ -72.108354, 42.409698 ], "pop" : 4546, "state" : "MA" }
{ "_id" : "01007", "city" : "BELCHERTOWN", "loc" : [ -72.410953, 42.275103 ], "pop" : 10579, "state" : "MA" }
{ "_id" : "01008", "city" : "BLANDFORD", "loc" : [ -72.936114, 42.182949 ], "pop" : 1240, "state" : "MA" }
{ "_id" : "01010", "city" : "BRIMFIELD", "loc" : [ -72.188455, 42.116543 ], "pop" : 3706, "state" : "MA" }
{ "_id" : "01011", "city" : "CHESTER", "loc" : [ -72.988761, 42.279421 ], "pop" : 1688, "state" : "MA" }
{ "_id" : "01012", "city" : "CHESTERFIELD", "loc" : [ -72.833309, 42.38167 ], "pop" : 177, "state" : "MA" }
{ "_id" : "01013", "city" : "CHICOPEE", "loc" : [ -72.607962, 42.162046 ], "pop" : 23396, "state" : "MA" }
{ "_id" : "01020", "city" : "CHICOPEE", "loc" : [ -72.576142, 42.176443 ], "pop" : 31495, "state" : "MA" }
{ "_id" : "01022", "city" : "WESTOVER AFB", "loc" : [ -72.558657, 42.196672 ], "pop" : 1764, "state" : "MA" }
{ "_id" : "01026", "city" : "CUMMINGTON", "loc" : [ -72.905767, 42.435296 ], "pop" : 1484, "state" : "MA" }
{ "_id" : "01027", "city" : "MOUNT TOM", "loc" : [ -72.679921, 42.264319 ], "pop" : 16864, "state" : "MA" }
{ "_id" : "01028", "city" : "EAST LONGMEADOW", "loc" : [ -72.505565, 42.067203 ], "pop" : 13367, "state" : "MA" }
{ "_id" : "01030", "city" : "FEEDING HILLS", "loc" : [ -72.675077, 42.07182 ], "pop" : 11985, "state" : "MA" }
{ "_id" : "01031", "city" : "GILBERTVILLE", "loc" : [ -72.198585, 42.332194 ], "pop" : 2385, "state" : "MA" }
{ "_id" : "01032", "city" : "GOSHEN", "loc" : [ -72.844092, 42.466234 ], "pop" : 122, "state" : "MA" }
{ "_id" : "01033", "city" : "GRANBY", "loc" : [ -72.520001, 42.255704 ], "pop" : 5526, "state" : "MA" }
{ "_id" : "01034", "city" : "TOLLAND", "loc" : [ -72.908793, 42.070234 ], "pop" : 1652, "state" : "MA" }
{ "_id" : "01035", "city" : "HADLEY", "loc" : [ -72.571499, 42.36062 ], "pop" : 4231, "state" : "MA" }
Type "it" for more
> it
{ "_id" : "01036", "city" : "HAMPDEN", "loc" : [ -72.431823, 42.064756 ], "pop" : 4709, "state" : "MA" }
{ "_id" : "01038", "city" : "HATFIELD", "loc" : [ -72.616735, 42.38439 ], "pop" : 3184, "state" : "MA" }
{ "_id" : "01039", "city" : "HAYDENVILLE", "loc" : [ -72.703178, 42.381799 ], "pop" : 1387, "state" : "MA" }
{ "_id" : "01040", "city" : "HOLYOKE", "loc" : [ -72.626193, 42.202007 ], "pop" : 43704, "state" : "MA" }
{ "_id" : "01050", "city" : "HUNTINGTON", "loc" : [ -72.873341, 42.265301 ], "pop" : 2084, "state" : "MA" }
{ "_id" : "01053", "city" : "LEEDS", "loc" : [ -72.703403, 42.354292 ], "pop" : 1350, "state" : "MA" }
{ "_id" : "01054", "city" : "LEVERETT", "loc" : [ -72.499334, 42.46823 ], "pop" : 1748, "state" : "MA" }
{ "_id" : "01056", "city" : "LUDLOW", "loc" : [ -72.471012, 42.172823 ], "pop" : 18820, "state" : "MA" }
{ "_id" : "01057", "city" : "MONSON", "loc" : [ -72.319634, 42.101017 ], "pop" : 8194, "state" : "MA" }
{ "_id" : "01060", "city" : "FLORENCE", "loc" : [ -72.654245, 42.324662 ], "pop" : 27939, "state" : "MA" }
{ "_id" : "01068", "city" : "OAKHAM", "loc" : [ -72.051265, 42.348033 ], "pop" : 1503, "state" : "MA" }
{ "_id" : "01069", "city" : "PALMER", "loc" : [ -72.328785, 42.176233 ], "pop" : 9778, "state" : "MA" }
{ "_id" : "01070", "city" : "PLAINFIELD", "loc" : [ -72.918289, 42.514393 ], "pop" : 571, "state" : "MA" }
{ "_id" : "01071", "city" : "RUSSELL", "loc" : [ -72.840343, 42.147063 ], "pop" : 608, "state" : "MA" }
{ "_id" : "01072", "city" : "SHUTESBURY", "loc" : [ -72.421342, 42.481968 ], "pop" : 1533, "state" : "MA" }
{ "_id" : "01073", "city" : "SOUTHAMPTON", "loc" : [ -72.719381, 42.224697 ], "pop" : 4478, "state" : "MA" }
{ "_id" : "01075", "city" : "SOUTH HADLEY", "loc" : [ -72.581137, 42.237537 ], "pop" : 16699, "state" : "MA" }
{ "_id" : "01077", "city" : "SOUTH WICK", "loc" : [ -72.770588, 42.051099 ], "pop" : 7667, "state" : "MA" }
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{ "_id": "01077", "city": "SOUTHWICK", "loc": [ -72.770588, 42.051099 ], "pop": 7667, "state": "MA" }
{ "_id": "01080", "city": "THREE RIVERS", "loc": [ -72.362352, 42.181894 ], "pop": 2425, "state": "MA" }
{ "_id": "01081", "city": "WALES", "loc": [ -72.204592, 42.062734 ], "pop": 1732, "state": "MA" }
Type "it" for more
> db.movies.find({$and:[{"city":"ATLANTA"}, {"state":"GA"}]})
> db.zipcodes.find({$and:[{"city":"ATLANTA"}, {"state":"GA"}]})
{ "_id": "30303", "city": "ATLANTA", "loc": [ -84.388846, 33.752504 ], "pop": 1845, "state": "GA" }
{ "_id": "30305", "city": "ATLANTA", "loc": [ -84.385145, 33.831963 ], "pop": 19122, "state": "GA" }
{ "_id": "30306", "city": "ATLANTA", "loc": [ -84.351418, 33.786027 ], "pop": 20081, "state": "GA" }
{ "_id": "30307", "city": "ATLANTA", "loc": [ -84.335957, 33.769138 ], "pop": 16330, "state": "GA" }
{ "_id": "30308", "city": "ATLANTA", "loc": [ -84.375744, 33.771839 ], "pop": 8549, "state": "GA" }
{ "_id": "30309", "city": "ATLANTA", "loc": [ -84.388338, 33.798407 ], "pop": 14766, "state": "GA" }
{ "_id": "30310", "city": "ATLANTA", "loc": [ -84.423173, 33.727849 ], "pop": 34017, "state": "GA" }
{ "_id": "30311", "city": "ATLANTA", "loc": [ -84.470219, 33.722957 ], "pop": 34880, "state": "GA" }
{ "_id": "30312", "city": "ATLANTA", "loc": [ -84.378125, 33.746749 ], "pop": 17683, "state": "GA" }
{ "_id": "30313", "city": "ATLANTA", "loc": [ -84.39352, 33.76825 ], "pop": 8038, "state": "GA" }
{ "_id": "30314", "city": "ATLANTA", "loc": [ -84.425546, 33.756103 ], "pop": 26649, "state": "GA" }
{ "_id": "30315", "city": "ATLANTA", "loc": [ -84.380771, 33.705062 ], "pop": 41061, "state": "GA" }
{ "_id": "30316", "city": "ATLANTA", "loc": [ -84.333913, 33.721686 ], "pop": 34668, "state": "GA" }
{ "_id": "30317", "city": "ATLANTA", "loc": [ -84.31685, 33.749788 ], "pop": 16395, "state": "GA" }
{ "_id": "30318", "city": "ATLANTA", "loc": [ -84.445432, 33.786454 ], "pop": 53894, "state": "GA" }
{ "_id": "30319", "city": "ATLANTA", "loc": [ -84.335091, 33.868728 ], "pop": 32138, "state": "GA" }
{ "_id": "30324", "city": "ATLANTA", "loc": [ -84.354867, 33.820609 ], "pop": 15044, "state": "GA" }
{ "_id": "30326", "city": "ATLANTA", "loc": [ -84.358232, 33.848168 ], "pop": 125, "state": "GA" }
{ "_id": "30327", "city": "ATLANTA", "loc": [ -84.419966, 33.862723 ], "pop": 18467, "state": "GA" }
{ "_id": "30329", "city": "ATLANTA", "loc": [ -84.321402, 33.823555 ], "pop": 17013, "state": "GA" }
Type "it" for more
> db.zipcodes.aggregate([{$match:$and:[{"city":"ATLANTA"}, {"state":"GA"}]})
uncaught exception: SyntaxError: unexpected token: '{' :
@ (shell):1:21
> db.zipcodes.aggregate([{$match:$and:[{"city":"ATLANTA"}, {"state":"GA"}]})
{ "_id": "30303", "city": "ATLANTA", "loc": [ -84.388846, 33.752504 ], "pop": 1845, "state": "GA" }
{ "_id": "30305", "city": "ATLANTA", "loc": [ -84.385145, 33.831963 ], "pop": 19122, "state": "GA" }
{ "_id": "30306", "city": "ATLANTA", "loc": [ -84.351418, 33.786027 ], "pop": 20081, "state": "GA" }
{ "_id": "30307", "city": "ATLANTA", "loc": [ -84.335957, 33.769138 ], "pop": 16330, "state": "GA" }
{ "_id": "30308", "city": "ATLANTA", "loc": [ -84.375744, 33.771839 ], "pop": 8549, "state": "GA" }
{ "_id": "30309", "city": "ATLANTA", "loc": [ -84.388338, 33.798407 ], "pop": 14766, "state": "GA" }
{ "_id": "30310", "city": "ATLANTA", "loc": [ -84.423173, 33.727849 ], "pop": 34017, "state": "GA" }
{ "_id": "30311", "city": "ATLANTA", "loc": [ -84.470219, 33.722957 ], "pop": 34880, "state": "GA" }
{ "_id": "30312", "city": "ATLANTA", "loc": [ -84.378125, 33.746749 ], "pop": 17683, "state": "GA" }
{ "_id": "30313", "city": "ATLANTA", "loc": [ -84.39352, 33.76825 ], "pop": 8038, "state": "GA" }
{ "_id": "30314", "city": "ATLANTA", "loc": [ -84.425546, 33.756103 ], "pop": 26649, "state": "GA" }
{ "_id": "30315", "city": "ATLANTA", "loc": [ -84.380771, 33.705062 ], "pop": 41061, "state": "GA" }
{ "_id": "30316", "city": "ATLANTA", "loc": [ -84.333913, 33.721686 ], "pop": 34668, "state": "GA" }
{ "_id": "30317", "city": "ATLANTA", "loc": [ -84.31685, 33.749788 ], "pop": 16395, "state": "GA" }

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{ "_id": "30317", "city": "ATLANTA", "loc": [ -84.31685, 33.749788 ], "pop": 16395, "state": "GA" }
{ "_id": "30318", "city": "ATLANTA", "loc": [ -84.445432, 33.786454 ], "pop": 53894, "state": "GA" }
{ "_id": "30319", "city": "ATLANTA", "loc": [ -84.335091, 33.868728 ], "pop": 32138, "state": "GA" }
{ "_id": "30324", "city": "ATLANTA", "loc": [ -84.354867, 33.820609 ], "pop": 15044, "state": "GA" }
{ "_id": "30326", "city": "ATLANTA", "loc": [ -84.358232, 33.848168 ], "pop": 125, "state": "GA" }
{ "_id": "30327", "city": "ATLANTA", "loc": [ -84.419966, 33.862723 ], "pop": 18467, "state": "GA" }
{ "_id": "30329", "city": "ATLANTA", "loc": [ -84.321402, 33.823555 ], "pop": 17013, "state": "GA" }
Type "it" for more
> db.zipcodes.aggregate([{$group:{_id:"city":"ATLANTA"},count:{sum:1}}])
{ "_id": { "city": "ATLANTA" }, "count": 29353 }
> db.zipcodes.aggregate([{$group:{_id:"city":"ATLANTA"},totalpopulation:{sum:"$pop"}}])
{ "_id": { "city": "ATLANTA" }, "totalpopulation": 248408400 }
> db.zipcodes.aggregate([{$group:{_id:"$state",population:{sum:"$pop"}}})
{ "_id": "ND", "population": 638272 }
{ "_id": "WA", "population": 4866692 }
{ "_id": "AK", "population": 544698 }
{ "_id": "IN", "population": 5544136 }
{ "_id": "NH", "population": 1109252 }
{ "_id": "FL", "population": 12686644 }
{ "_id": "ME", "population": 1226648 }
{ "_id": "MN", "population": 4372982 }
{ "_id": "CT", "population": 3287116 }
{ "_id": "KS", "population": 2475285 }
{ "_id": "AR", "population": 2350725 }
{ "_id": "ND", "population": 7730188 }
{ "_id": "CA", "population": 29754890 }
{ "_id": "NV", "population": 17990402 }
{ "_id": "VT", "population": 562758 }
{ "_id": "CO", "population": 3293755 }
{ "_id": "WY", "population": 453528 }
{ "_id": "MO", "population": 5110648 }
{ "_id": "MT", "population": 798948 }
{ "_id": "SD", "population": 695397 }
Type "it" for more
> db.zipcodes.aggregate([{$group:{_id:"$state",population:{sum:"$pop"}},{sort:{population:-1}}])
{ "_id": "CA", "population": 29754890 }
{ "_id": "NV", "population": 17990402 }
{ "_id": "TX", "population": 16984601 }
{ "_id": "FL", "population": 12686644 }
{ "_id": "PA", "population": 11881643 }
{ "_id": "IL", "population": 11427576 }
{ "_id": "OH", "population": 10846517 }
{ "_id": "MI", "population": 9295297 }
{ "_id": "ND", "population": 7730188 }
{ "_id": "NC", "population": 6628637 }

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{ "_id" : "NC", "population" : 6628637 }
{ "_id" : "GA", "population" : 6478216 }
{ "_id" : "VA", "population" : 6181479 }
{ "_id" : "MA", "population" : 6016425 }
{ "_id" : "IN", "population" : 5544136 }
{ "_id" : "MO", "population" : 5110648 }
{ "_id" : "WI", "population" : 4891769 }
{ "_id" : "TN", "population" : 4876457 }
{ "_id" : "WA", "population" : 4866692 }
{ "_id" : "MD", "population" : 4781379 }
{ "_id" : "MN", "population" : 4372982 }
Type "it" for more
> db.zipcodes.aggregate([{$group:{$id:$state,population:{$sum:$pop}}},{ $sort:{population:-1}},{ $limit:3}])
{ "_id" : "CA", "population" : 29754890 }
{ "_id" : "NY", "population" : 17990402 }
{ "_id" : "TX", "population" : 16984601 }
> db.zipcodes.aggregate([{$group:{$id:{city:$city,state:$state},population:{$sum:$pop}}})]
{ "_id" : { "city" : "RELIANCE", "state" : "SD" }, "population" : 790 }
{ "_id" : { "city" : "MURRAYVILLE", "state" : "GA" }, "population" : 2126 }
{ "_id" : { "city" : "FAIRFIELD", "state" : "CT" }, "population" : 49523 }
{ "_id" : { "city" : "STOUGHTON", "state" : "WI" }, "population" : 15469 }
{ "_id" : { "city" : "NESBIT", "state" : "MS" }, "population" : 4098 }
{ "_id" : { "city" : "TOLEDO", "state" : "IA" }, "population" : 3891 }
{ "_id" : { "city" : "ROUNDHEAD", "state" : "OH" }, "population" : 641 }
{ "_id" : { "city" : "COLUMBUS", "state" : "AR" }, "population" : 739 }
{ "_id" : { "city" : "WAUNAKEE", "state" : "WI" }, "population" : 9691 }
{ "_id" : { "city" : "HULL", "state" : "MA" }, "population" : 10466 }
{ "_id" : { "city" : "BLACKWELL", "state" : "MO" }, "population" : 1012 }
{ "_id" : { "city" : "COWAN HEIGHTS", "state" : "CA" }, "population" : 37045 }
{ "_id" : { "city" : "PEN ARGYL", "state" : "PA" }, "population" : 9736 }
{ "_id" : { "city" : "VISALIA", "state" : "CA" }, "population" : 98276 }
{ "_id" : { "city" : "ELM GROVE", "state" : "LA" }, "population" : 2216 }
{ "_id" : { "city" : "RELIANCE", "state" : "VA" }, "population" : 145 }
{ "_id" : { "city" : "FACKLER", "state" : "AL" }, "population" : 396 }
{ "_id" : { "city" : "LEXINGTON", "state" : "KY" }, "population" : 227262 }
{ "_id" : { "city" : "STEPHENVILLE", "state" : "TX" }, "population" : 19745 }
{ "_id" : { "city" : "STILES", "state" : "WI" }, "population" : 2684 }
Type "it" for more
> db.zipcodes.aggregate([{$group:{$id:{city:$city,state:$state},avgpopulation:{$avg:$pop}}})]
{ "_id" : { "city" : "SCOTTOWN", "state" : "OH" }, "avgpopulation" : 1433 }
{ "_id" : { "city" : "KEKAHA", "state" : "HI" }, "avgpopulation" : 3785 }
{ "_id" : { "city" : "KUNA", "state" : "ID" }, "avgpopulation" : 8141 }
{ "_id" : { "city" : "WEST POINT", "state" : "CA" }, "avgpopulation" : 1513 }
{ "_id" : { "city" : "REINHOLDS", "state" : "PA" }, "avgpopulation" : 4665 }
{ "_id" : { "city" : "MAPES", "state" : "ND" }, "avgpopulation" : 1327 }

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{ "_id" : { "city" : "MAPES", "state" : "ND" }, "avgpopulation" : 1327 }
{ "_id" : { "city" : "ABBOT VILLAGE", "state" : "ME" }, "avgpopulation" : 1193 }
{ "_id" : { "city" : "FAIR OAKS", "state" : "AR" }, "avgpopulation" : 285 }
{ "_id" : { "city" : "HEXT", "state" : "TX" }, "avgpopulation" : 60 }
{ "_id" : { "city" : "FORT DIX", "state" : "NJ" }, "avgpopulation" : 10101 }
{ "_id" : { "city" : "META", "state" : "MO" }, "avgpopulation" : 1003 }
{ "_id" : { "city" : "PORUM", "state" : "OK" }, "avgpopulation" : 2976 }
{ "_id" : { "city" : "DUCHESNE", "state" : "UT" }, "avgpopulation" : 38 }
{ "_id" : { "city" : "GERONIMO", "state" : "OK" }, "avgpopulation" : 1305 }
{ "_id" : { "city" : "DEEPSTEP", "state" : "GA" }, "avgpopulation" : 10459 }
{ "_id" : { "city" : "LUXEMBURG", "state" : "WI" }, "avgpopulation" : 5188 }
{ "_id" : { "city" : "EAGLE RIVER", "state" : "WI" }, "avgpopulation" : 6726 }
{ "_id" : { "city" : "FORDOCHE", "state" : "LA" }, "avgpopulation" : 0 }
{ "_id" : { "city" : "COLLINS", "state" : "MS" }, "avgpopulation" : 9457 }
{ "_id" : { "city" : "HILL CITY", "state" : "KS" }, "avgpopulation" : 2501 }
Type "it" for more
> db.zipcodes.aggregate([{$group:{$id:{city:$city,state:$state},avgpopulation:{$avg:$pop}}},{ $sort:{avgpopulation:-1}},{ $limit:3}])
uncaught exception: SyntaxError: missing name after . operator
@shell:1:123
> db.zipcodes.aggregate([{$group:{$id:{city:$city,state:$state},avgpopulation:{$avg:$pop}}},{ $sort:{avgpopulation:-1}},{ $limit:3}])
{ "_id" : { "city" : "BELL GARDENS", "state" : "CA" }, "avgpopulation" : 99568 }
{ "_id" : { "city" : "NORWALK", "state" : "CA" }, "avgpopulation" : 94188 }
{ "_id" : { "city" : "ARLETA", "state" : "CA" }, "avgpopulation" : 88114 }
>

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