QUADERNO 4 FEDERICO BUSSOLLINO S317641

QUERY 1
```
db.bs.aggregate([
  {
    $group: { _id: "$extra.status",
              value: { $sum: 1}}
  }, {
    $match: {$or: [{_id: "online"}, {_id: "offline"}]}
  }
])
```

QUERY 2
```
db.bs.aggregate([
  {
    $group: { _id: "$extra.status",
              value: { $sum: 1}}
  }, {
    $match: {$and: [{_id:{$ne: "online"}}, {_id:{$ne: "offline"}}]}
  }
])
```

QUERY 3
```
db.bs.aggregate([
  {
     $match: {$and: [{ "extra.status": { $ne: "online" }}, { "extra.status": { $ne: "offline" }}]}
  }, {
    $project: {"extra.status": 1}
  }
])
```

QUERY 4
```
db.bs.aggregate([
 {
    $match: {$and: [{ "extra.status": "online" },{ "extra.score": { $gte: 4}}]}
 },
 {
   $project: {name: 1}
 },
 {
   $sort: {name: 1},
 }
])
```

```
QUERY 5
db.bs.aggregate([
   {
      $match: {
         "extra.status": "offline",
         $or: [{"empty_slots": {"$gt": 0}},{"free_bikes": {"$gt": 0}}]
      }
   },{
      "$group": {
         _id: null,
         tot_empty_slots: {
            $sum: "$empty_slots"
         },
         tot_free_bike: {
            $sum: "$free_bikes"
         },
         names: {
            "$push": "$name"
         }
      }
   }
])

QUERY 6
db.bs.aggregate([
  {$group:{
      _id: null,
      tot_reviews: {
        $sum: "$extra.reviews"
      }
   }
])

QUERY 7
db.bs.aggregate([
  {$group:
   {
      _id: "$extra.score",
      num_stazioni:{$sum:1}
   }
  }
])
```

```
QUERY 8
db.bs.aggregate([
   {$group:
      {
         _id: "$extra.status",
         avg_score: {$avg: "$extra.score"}
      }
   },{
    $match: {$or: [{_id: "online"},{_id: "offline"}]}
   }
])

QUERY 9
db.bs.aggregate([
   {
      $project: {
        key: {$cond: {if: "$free_bikes", then: "1", else: "0"}
      },{
        value: "$extra.score"
      }
   },{
      $group: {
        _id: "$key",
        avg_score: {
          $avg: "$value"
        }
      }
   }
])

QUERY 10
db.bs.aggregate([
   {
      $match: {extra.status: "online"}
   },{
      $project: {
        key: {$cond": {if: "$free_bikes", then: "1", else: "0"} },
        value: "$extra.score"
      }
   },{
      $group: {
        _id: "$key",
        avg_score: {$avg: "$value"}
      }
   }
])
```

```
QUERY 11
db.bs.find({$and:[{
   location: {$near: {$geometry: {
     type: "Point" ,
     coordinates: [ 45.07456, 7.69463 ]
     }
    }
  }},{
    free_bikes:{$gt:0}
  }]
}).limit(3)

QUERY 12
db.bs.find({name: "Politecnico 4"}).forEach(function(doc){
db.bs.find$and:[{
   location: {$near: {$geometry: {
     type: "Point" ,
     coordinates: [$in: "doc.location.coordinates.0", [$in: "doc.location.coordinates.1"]
     }}
  }},{
    free_bikes:{$gt:0}
  }]
}}).limit(3);
})
```