

# Aggregation Stages Cheat Sheet



## Query

### \$match

```
{_id: 1, x: "●", y: "■"},  
{_id: 2, x: "●", y: "■"},  
{_id: 3, x: "●", y: "■"},  
{_id: 4, x: "●", y: "■"},  
{_id: 5, x: "●", y: "■"}
```



```
$match: {y: "■"}
```



```
{_id: 1, x: "●", y: "■"},  
{_id: 5, x: "●", y: "■"}
```

### \$sort

```
{_id: 1, x: "●", y: "■"},  
{_id: 2, x: "●", y: "■"},  
{_id: 3, x: "●", y: "■"},  
{_id: 4, x: "●", y: "■"},  
{_id: 5, x: "●", y: "■"}
```



```
$sort: {  
  x: 1,  
  y: 1  
}
```



```
{_id: 4, x: "●", y: "■"},  
{_id: 1, x: "●", y: "■"},  
{_id: 3, x: "●", y: "■"},  
{_id: 5, x: "●", y: "■"},  
{_id: 2, x: "●", y: "■"}
```

### \$limit

```
{_id: 1, x: "●", y: "■"},  
{_id: 2, x: "●", y: "■"},  
{_id: 3, x: "●", y: "■"},  
{_id: 4, x: "●", y: "■"},  
{_id: 5, x: "●", y: "■"}
```



```
$limit: 2
```



```
{_id: 1, x: "●", y: "■"},  
{_id: 2, x: "●", y: "■"}
```

## Mutate

### \$addFields

```
{_id: 1, x: "●", y: "■"},  
{_id: 2, x: "●", y: "■"},  
{_id: 3, x: "●", y: "■"},  
{_id: 4, x: "●", y: "■"},  
{_id: 5, x: "●", y: "■"}
```



```
$addFields: {  
  z: "▲"  
}
```



```
{_id: 1, x: "●", y: "■", z: "▲"},  
{_id: 2, x: "●", y: "■", z: "▲"},  
{_id: 3, x: "●", y: "■", z: "▲"},  
{_id: 4, x: "●", y: "■", z: "▲"},  
{_id: 5, x: "●", y: "■", z: "▲"}
```

### \$project

```
{_id: 1, x: "●", y: "■"},  
{_id: 2, x: "●", y: "■"},  
{_id: 3, x: "●", y: "■"},  
{_id: 4, x: "●", y: "■"},  
{_id: 5, x: "●", y: "■"}
```



```
$project: {  
  _id: 0,  
  y: 1  
}
```



```
{y: "■"},  
{y: "■"},  
{y: "■"},  
{y: "■"},  
{y: "■"}
```

## \$set

```
{_id: 1, x: "●", y: "■"},
{_id: 2, x: "●", y: "■"},
{_id: 3, x: "●", y: "■"},
{_id: 4, x: "●", y: "■"},
{_id: 5, x: "●", y: "■"}
```



\$set: {x: "●"}



```
{_id: 1, x: "●", y: "■"},
{_id: 2, x: "●", y: "■"},
{_id: 3, x: "●", y: "■"},
{_id: 4, x: "●", y: "■"},
{_id: 5, x: "●", y: "■"}
```

## Summarize/Itemize

### \$count

```
{_id: 1, x: "●", y: "■"},
{_id: 2, x: "●", y: "■"},
{_id: 3, x: "●", y: "■"},
{_id: 4, x: "●", y: "■"},
{_id: 5, x: "●", y: "■"}
```



\$count: "totalDocs"



```
{totalDocs: 5}
```

### \$facet

```
{_id: 1, x: "●", y: "■"},
{_id: 2, x: "●", y: "■"},
{_id: 3, x: "●", y: "■"},
{_id: 4, x: "●", y: "■"},
{_id: 5, x: "●", y: "■"}
```



```
$facet: {
  redCircles: [{
    $match: {
      x: "●"
    }
  }],
  firstTwo: [{
    $limit: 2
  }]
}
```



```
{
  redCircles: [
    {_id: 1, x: "●", y: "■"},
    {_id: 4, x: "●", y: "■"}
  ],
  firstTwo: [
    {_id: 1, x: "●", y: "■"},
    {_id: 2, x: "●", y: "■"}
  ]
}
```

### \$group

```
{_id: 1, x: "●", y: "■"},
{_id: 2, x: "●", y: "■"},
{_id: 3, x: "●", y: "■"},
{_id: 4, x: "●", y: "■"},
{_id: 5, x: "●", y: "■"}
```



```
$group: {
  _id: "$x",
  "count": {
    $sum: 1
  }
}
```



```
{_id: "●", count: 2},
{_id: "■", count: 1},
{_id: "■", count: 2}
```

### \$unwind

```
{_id: 1, x: ["●", "■"], y: "■"},
{_id: 2, x: ["●", "■"], y: "■"},
{_id: 3, x: ["●"], y: "■"},
{_id: 4, x: ["■"], y: "■"},
{_id: 5, x: ["■"], y: "■"}
```



```
$unwind: {
  path: "$x"
}
```



```
{_id: 1, x: "●", y: "■"},
{_id: 1, x: "■", y: "■"},
{_id: 2, x: "●", y: "■"},
{_id: 2, x: "■", y: "■"},
{_id: 3, x: "●", y: "■"},
{_id: 4, x: "■", y: "■"},
{_id: 5, x: "■", y: "■"}
```

## Join

### \$lookup

```
{_id: 1, x: "●", y: "■", zId: 3},
{_id: 2, x: "●", y: "■", zId: 5},
{_id: 3, x: "●", y: "■"},
{_id: 4, x: "●", y: "■"},
{_id: 5, x: "●", y: "■", zId: 1}
```



```
$lookup: {
  from: "zCollection",
  localField: "zId",
  foreignField: "_id",
  as: "z"
}
```



```
{_id: 1, x: "●", y: "■", z: [...]},
{_id: 2, x: "●", y: "■", z: [...]},
{_id: 3, x: "●", y: "■"},
{_id: 4, x: "●", y: "■"},
{_id: 5, x: "●", y: "■", z: [...]}
```