Q1) What is the total revenue generated by the e-commerce store in June 2022?

Step 1: Convert the “order_date” from *string* to *int* format – here, new attribute is created **“new_order_date”**

```
db.sales_collection.aggregate([
      {
        $addFields: {
          new_order_date: {
            $dateToString: {
              format: "%Y-%m-%d %H:%M:%S",
              date: {
                $dateFromString: {
                  dateString: "$order_date",
                  format: "%Y/%m/%d %H:%M:%S"
                }
              }
            }
          }
        }
      },
      {
        $out: "sales_collection"  // Write the results back to the
collection
      }
    ])
```

Step 2: Check the “new_order_date” – it should ne in *yyyy:mm:dd hh:mm:ss* format

```
db.sales_collection.distinct("new_order_date")
```

Outcome:

```
[
  '2022-06-01 16:05:00', '2022-06-02 12:57:00', '2022-06-03 11:52:00',
  '2022-06-03 22:00:00', '2022-06-05 07:05:00', '2022-06-05 07:18:00',
  '2022-06-06 00:01:00', '2022-06-06 00:06:00', '2022-06-06 00:12:00',
  '2022-06-06 01:37:00', '2022-06-06 03:56:00', '2022-06-06 09:12:00',
  '2022-06-06 10:04:00', '2022-06-06 10:50:00', '2022-06-06 11:57:00',
  ... 429 more items
]
```

Step 3: Find the sum of revenue between 2022-06-01 00:00:00 to 2022-07-01 00:00:00

```
db.sales_collection.aggregate([
  {
    $match: {
      new_order_date: {
        $gte: '2022-06-01 00:00:00',
        $lt: '2022-07-01 00:00:00'
      }
    }
  },
  {
    $group: {
      _id: null,
      total_revenue: { $sum: "$revenue" }
    }
  }
```

Outcome:

```
[ { _id: null, total_revenue: 25259 } ]
```

Q2) What is the highest revenue of a SKU in a single order?

```
db.sales_collection.aggregate([
  { $group: { _id: "$sku", max_revenue: { $max: "$revenue" } } },
  { $sort: { max_revenue: -1 } },
  { $limit: 1 }
])
```

Outcome:

```
[ { _id: 708, max_revenue: 899 } ]
```

Q3) Find the average unit price per SKU for the "Dark Blue" color.

```
db.sales_collection.aggregate([
  { $match: { color: "Dark Blue" } },
  { $group: { _id: "$sku", avg_unit_price: { $avg: "$unit_price" } } }
])
```

Outcome:

```
[
  { _id: 708, avg_unit_price: 294.4040404040404 },
  { _id: 9699, avg_unit_price: 288 },
  { _id: 1499, avg_unit_price: 287 },
  { _id: 89, avg_unit_price: 256.55555555555554 },
  { _id: 799, avg_unit_price: 275.8056537102473 }
]
```

Q4) Identify the top 5 best-selling colors based on quantity sold

```
db.sales_collection.aggregate([
  { $group: { _id: "$color", total_quantity: { $sum: "$quantity" } } },
  { $sort: { total_quantity: -1 } },
  { $limit: 5 }
])
```

Outcome:

```
[
  { _id: 'Dark Blue', total_quantity: 401 },
  { _id: 'Light Blue', total_quantity: 26 },
  { _id: 'Black', total_quantity: 15 },
  { _id: 'Grey Wash', total_quantity: 9 },
  { _id: 'Mid Wash', total_quantity: 8 }
]
```

Q5) Calculate the total revenue for orders with "Dark Blue" products in XL size.

```
db.sales_collection.aggregate([
  { $match: { color: "Dark Blue", size: "XL" } },
  { $group: { _id: null, total_revenue: { $sum: "$revenue" } } }
])
```

Outcome:

```
[ { _id: null, total_revenue: 40759 } ]
```

Q6) What is the average quantity of products per order for "Dark Blue" SKUs?

```
db.sales_collection.aggregate([
  { $match: { color: "Dark Blue" } },
  { $group: { _id: "$order_id", avg_quantity: { $avg: "$quantity" } }
},
  { $group: { _id: null, overall_avg_quantity: { $avg: "$avg_quantity"
} } }
])
```

Outcome:

```
[ { _id: null, overall_avg_quantity: 1.0110677083333333 } ]
```

Q7) Find the total revenue for each day in June 2022 and identify the highest revenue per day.

```
db.sales_collection.aggregate([
  {
    $match: {
      new_order_date: {
        $gte: '2022-06-01 00:00:00',
        $lt: '2022-07-01 00:00:00'
      }
    }
  },
  {
    $group: {
      _id: {
        date: { $dateToString: { format: "%Y-%m-%d", date: { $toDate:
"$new_order_date" } } }
      },
      total_revenue: { $sum: "$revenue" }
    }
  },
  {
    $sort: {
      total_revenue: -1
    }
  },
  {
    $facet: {
      "total_revenue_per_day": [
        {
          $sort: {
            "_id.date": 1
          }
        },
        {
          $project: {
            _id: 0,
            date: "$_id.date",
            total_revenue: 1
          }
        }
      ],
      "highest_revenue_day": [
        {
          $limit: 1
        }
      ]
    }
```

```
  }
]).forEach(function(doc) {
  print("1) Total revenue for each day in June 2022:");
  printjson(doc.total_revenue_per_day);
  print("2) Highest Revenue Day: " +
doc.highest_revenue_day[0]._id.date + ", Total Revenue: " +
doc.highest_revenue_day[0].total_revenue);
});
```

Outcome:

```
1) Total revenue for each day in June 2022:
[
  {
    total_revenue: 556,
    date: '2022-06-01'
  },
  {
    total_revenue: 288,
    date: '2022-06-02'
  },
  {
    total_revenue: 854,
    date: '2022-06-03'
  },
  {
    total_revenue: 546,
    date: '2022-06-05'
  },
  {
    total_revenue: 4338,
    date: '2022-06-06'
  },
  {
    total_revenue: 806,
    date: '2022-06-08'
  },
  {
    total_revenue: 1449,
    date: '2022-06-09'
  },
  {
    total_revenue: 492,
    date: '2022-06-10'
  },
  {
    total_revenue: 1606,
    date: '2022-06-11'
  },
  {
    total_revenue: 834,
    date: '2022-06-12'
  },
  {
    total_revenue: 264,
    date: '2022-06-13'
  },
```

```
{
    total_revenue: 1226,
    date: '2022-06-14'
  },
  {
    total_revenue: 2654,
    date: '2022-06-15'
  },
  {
    total_revenue: 542,
    date: '2022-06-16'
  },
  {
    total_revenue: 278,
    date: '2022-06-17'
  },
  {
    total_revenue: 1380,
    date: '2022-06-18'
  },
  {
    total_revenue: 542,
    date: '2022-06-19'
  },
  {
    total_revenue: 278,
    date: '2022-06-20'
  },
  {
    total_revenue: 820,
    date: '2022-06-21'
  },
  {
    total_revenue: 552,
    date: '2022-06-22'
  },
  {
    total_revenue: 794,
    date: '2022-06-23'
  },
  {
    total_revenue: 1360,
    date: '2022-06-24'
  },
  {
    total_revenue: 586,
    date: '2022-06-25'
  },
```

```
{
    total_revenue: 1082,
    date: '2022-06-26'
  },
  {
    total_revenue: 288,
    date: '2022-06-27'
  },
  {
    total_revenue: 586,
    date: '2022-06-28'
  },
  {
    total_revenue: 258,
    date: '2022-06-30'
  }
]
2) Highest Revenue Day: 2022-06-06, Total Revenue: 4338
```

Q8) Calculate the average unit price for each SKU

```
db.sales_collection.aggregate([
  { $group: { _id: "$sku", avg_unit_price: { $avg: "$unit_price" } } }
])
```

Outcome:

```
 [
  { _id: 239, avg_unit_price: 262.4375 },
  { _id: 339, avg_unit_price: 271 },
  { _id: 127, avg_unit_price: 238 },
  { _id: 79, avg_unit_price: 313 },
  { _id: 3799, avg_unit_price: 265.55555555555554 },
  { _id: 89, avg_unit_price: 257 },
  { _id: 539, avg_unit_price: 268 },
  { _id: 897, avg_unit_price: 268 },
  { _id: 708, avg_unit_price: 294.4040404040404 },
  { _id: 77, avg_unit_price: 253.4375 },
  { _id: 9699, avg_unit_price: 288 },
  { _id: 439, avg_unit_price: 258 },
  { _id: 799, avg_unit_price: 275.8056537102473 },
  { _id: 2499, avg_unit_price: 240.5 },
  { _id: 3081, avg_unit_price: 198 },
  { _id: 218, avg_unit_price: 314.85714285714283 },
  { _id: 'bobo', avg_unit_price: 212.75 },
  { _id: 61399, avg_unit_price: 278 },
  { _id: 1719, avg_unit_price: 256.5 },
  { _id: 29, avg_unit_price: 227 }
]
Type "it" for more
```

Q9) Identify the SKU with the highest total quantity sold

```
db.sales_collection.aggregate([
  { $group: { _id: "$sku", total_quantity: { $sum: "$quantity" } } },
  { $sort: { total_quantity: -1 } },
  { $limit: 1 }
])
```

Outcome:

```
[ { _id: 799, total_quantity: 287 } ]
```

Q10) Find the revenue contribution of "Dark Blue" products compared to "Navy Blue" products.

```
db.sales_collection.aggregate([
  { $match: { color: { $in: ["Dark Blue", "Navy Blue"] } } },
  { $group: { _id: "$color", total_revenue: { $sum: "$revenue" } } }
])
```

Outcome:

```
[
  { _id: 'Dark Blue', total_revenue: 112364 },
  { _id: 'Navy Blue', total_revenue: 1693 }
]
```

Q11) Calculate the total revenue for each size category (e.g., XL, M, 3XL).

```
db.sales_collection.aggregate([
  { $group: { _id: "$size", total_revenue: { $sum: "$revenue" } } }
])
```

Outcome:

```
[
  { _id: '2XL', total_revenue: 12422 },
  { _id: 'XL', total_revenue: 45868 },
  { _id: 'S', total_revenue: 227 },
  { _id: 'L', total_revenue: 25362 },
  { _id: 'One Size', total_revenue: 11793 },
  { _id: '4XL', total_revenue: 3205 },
  { _id: 'M', total_revenue: 25755 },
  { _id: 'One SIze', total_revenue: 990 },
  { _id: '3XL', total_revenue: 11301 },
  { _id: null, total_revenue: 9596 }
]
```

Q12) Identify the top 3 SKUs with the highest average revenue per order

```
db.sales_collection.aggregate([
  { $group: { _id: "$sku", avg_revenue_per_order: { $avg: "$revenue" }
} },
  { $sort: { avg_revenue_per_order: -1 } },
  { $limit: 3 }
])
```

Outcome:

```
[
  { _id: 218, avg_revenue_per_order: 314.85714285714283 },
  { _id: 79, avg_revenue_per_order: 313 },
  { _id: 9699, avg_revenue_per_order: 306 }
]
```