Questions -

You are managing a product catalog stored in a MongoDB collection called products. Each document has the following structure:

```
{
   _id: ObjectId,
  name: String,
  category: Array of Strings,
  price: Number(Double/Int)
  ratings: Array of Numbers
  stock : Number
}
```

1) Fetch only the top 5 most expensive products from the products collection.
2) Retrieve all products except the first 3 after sorting them by price in descending order.
3) Show only the product name and price, hiding the _id field.
4) For each product, create separate documents for each category using $unwind.
5) Add a new field discounted_price, which is 10% off the original price.
6) Rename the stock field to available_stock without modifying other fields.
7) Group products by vendor.name and store unique categories in an array for each vendor.
8) Create a new field total_ratings that stores the number of ratings each product has.
9) Filter products that have more than 3 ratings using $size.
10) What happens if a document has an empty category array when using $unwind? Test this with an example.
11) Store the result of filtering products where price > 500 into a new collection named expensive_products.
12) Merge filtered products (where price > 500) into an existing collection named expensive_products, updating matching documents.
13) What happens if you limit the results to 5 first and then skip the first 3? Write a query to test this.
14) Write an aggregation query to exclude the vendor field from the output.
15) Group products by category and store unique product names in an array. What happens if you use $push instead of $addToSet?