

```
}
}
{
  "_id" : ObjectId("66596a1ca2fe6d980b944a44"),
  "products" : [
    {
      "product_id" : 3,
      "name" : "Dell XPS"
    }
  ]
}
{
  "_id" : ObjectId("66596a8da2fe6d980b944a45"),
  "products" : [
    {
      "product_id" : 6,
      "name" : "Xbox Series"
    }
  ]
}
}
```

les:

- list all products and its name.
- list all categories.
- list all categories for those do not have a parent category.
- list all products where the name starts with the letter "M" (include product\_id, product name).
- list all products that contain a letter "o" anywhere in the name (include product\_id, product name)
- list the products that do not have a parent category (include product\_id, product name)
- retrieve all products and their corresponding categories (include only product\_id, product name, category name)
- list the products with a price greater than rupees 1000 order by its name in descending order. (include product\_id, product name, price)
- let the names of all products in the "Consoles" category order by its name in descending order (include only product name).
- Retrieve the total count (give name "total\_count" for this column) of products in each category (include category\_id, category name, total\_count).
- Display category name and total quantities (give name "total\_qty" for this column) of products in each category whose total quantity is greater than 15.

```
> db.categories.find({},{"products.product_id":1,"products.name":1})
{ "_id" : ObjectId("665963a5a2fe6d980b944a40"), "products" : [ ] }
{ "_id" : ObjectId("66596585a2fe6d980b944a41"), "products" : [ { "product_id" : 1, "name" : "MacBook Pro" } ] }
{ "_id" : ObjectId("665966d1a2fe6d980b944a42"), "products" : [ { "product_id" : 4, "name" : "Sony PlayStation 5" }, { "product_id" : 5, "name" : "Nintendo" } ] }
{ "_id" : ObjectId("66596798a2fe6d980b944a43"), "products" : [ { "product_id" : 1, "name" : "iPhone 12" } ] }
{ "_id" : ObjectId("66596a1ca2fe6d980b944a44"), "products" : [ { "product_id" : 3, "name" : "Dell XPS" } ] }
{ "_id" : ObjectId("66596a8da2fe6d980b944a45"), "products" : [ { "product_id" : 6, "name" : "Xbox Series" } ] }
> db.categories.find({},{"products.product_id":1,"products.name":1}).pretty()
{
  "_id" : ObjectId("665963a5a2fe6d980b944a40"), "products" : [ ] }
{
  "_id" : ObjectId("66596585a2fe6d980b944a41"),
  "products" : [
    {
      "product_id" : 1,
      "name" : "MacBook Pro"
    }
  ]
}
{
  "_id" : ObjectId("665966d1a2fe6d980b944a42"),
  "products" : [
    {
      "product_id" : 4,
      "name" : "Sony PlayStation 5"
    },
    {
      "product_id" : 5,
      "name" : "Nintendo"
    }
  ]
}
{
  "_id" : ObjectId("66596798a2fe6d980b944a43"),
  "products" : [
    {
      "product_id" : 1,
      "name" : "iPhone 12"
    }
  ]
}
{
  "_id" : ObjectId("66596a1ca2fe6d980b944a44"),
  "products" : [
    {
      "product_id" : 3,
      "name" : "Dell XPS"
    }
  ]
}
{
  "_id" : ObjectId("66596a8da2fe6d980b944a45"),
  "products" : [
    {
      "product_id" : 6,
      "name" : "Xbox Series"
    }
  ]
}
```

te a collection "categories" in MongoDB with documents to meets the following requirements:

gories (category\_id, name, parent\_category, products (product\_id, name, price, category\_id, quantity))

gory\_id (identifier for a category) is an integer field. name (name of the category) is a string field parent\_category (identifier for referring a category) is an integer field. products is a document with fields product\_id (identifier for a product) which is an integer field. name (name of the product) is a string field. price (price of the product) is a floating point field. gory\_id (identifier for a category) is an integer field. quantity (quantity available for the product) is an integer field

ments for categories is as follows:

Phones, NULL), (2, Laptops, NULL), (3, Consoles, NULL), (4, iPhone, 1), (5, Windows, 2), (6, Xbox, 3)

ments for products is as follows:

iPhone 12, 999.99, 4, 10), (2, MacBook Pro, 1999.99, 2, 5), (3, Dell XPS 15, 1599.99, 5, 8), (4, Sony PlayStation 5, 499.99, 3, 20), (5, Nintendo, 149.99, 3, 12), (6, Xbox Series X, 499.99,

ies:

ist all products and its name.

```
>
>
> db.categories.find({},{"products.product_id":1,"products.name":1,"_id":0})
{ "products" : [ ] }
{ "products" : [ { "product_id" : 1, "name" : "MacBook Pro" } ] }
{ "products" : [ { "product_id" : 4, "name" : "Sony PlayStation 5" }, { "product_id" : 5, "name" : "Nintendo" } ] }
{ "products" : [ { "product_id" : 1, "name" : "iPhone 12" } ] }
{ "products" : [ { "product_id" : 3, "name" : "Dell XPS" } ] }
{ "products" : [ { "product_id" : 6, "name" : "Xbox Series" } ] }
>
```