Chapter 3: Patterns (Part 1)

Lab: Apply the Subset Pattern

Problem:

You are the lead developer for an online organic recycled clothing store. Consider the following user story:

User Story

Due to the growing number of environmentally-conscious consumers, our store's inventory has increased exponentially. We now also have an increasingly large pool of makers and suppliers.

We recently found that our shopping app is getting slower due to the fact that the frequently-used documents can no longer all fit in RAM. This is happening largely due to having all product reviews, questions, and specs stored in the same document, which grows in size as reviews and ratings keep coming in.

To resolve this issue, we want to reduce the amount of data immediately available to the user in the app and only load additional data when the user asks for it.

Currently a typical document in our data base looks like this:

COPY

```
{
  "_id": ObjectId("5c9be463f752ec6b191c3c7e"),
  "item_code": "AS45OPD",
  "name": "Recycled Kicks",
  "maker_brand": "Shoes From The Gutter",
  "price": 100.00,
  "description": "These amazing Kicks are made from recycled plastics
and
  fabrics.They come in a variety of sizes and are completely unisex in
design.
  If your feet don't like them within the first 30 days, we'll return
your
  money no questions asked.
  ",
```

```json
  "materials": [
    "recycled cotton",
    "recycled plastic",
    "recycled food waste",
  ],
  "country": "Russia",
  "image": "https:///www.shoesfromthegutter.com/kicks/AS45OPD.img",
  "available_sizes": {
      "mens": ["5", "6", "8", "8W", "10", "10W", "11", "11W", "12",
"12W"],
      "womens": ["5", "6", "7", "8", "9", "10", "11", "12"]
  },
  "package_weight_kg": 2.00,
  "average_rating": 4.8,
  "reviews": [{
      "author": "i_love_kicks",
      "text": "best shoes ever! comfortable, awesome colors and
design!",
      "rating": 5
    },
    {
      "author": "i_know_everything",
      "text": "These shoes are no good because I ordered the wrong
size.",
      "rating": 1
    },
    "..."
  ],
  "questions": [{
      "author": "i_love_kicks",
      "text": "Do you guys make baby shoes?",
      "likes": 1223
    },
    {
      "author": "i_know_everything",
      "text": "Why do you make shoes out of garbage?",
      "likes": 0
    },
    "..."
  ],
  "stock_amount": 10000,
  "maker_address": {
    "building_number": 7,
    "street_name": "Turku",
    "city": "Saint-Petersburg",
    "country": "RU",
```

```
      "postal_code": 172091
    },
    "makers": ["Ilya Muromets", "Alyosha Popovich", "Ivan Grozniy",
  "Chelovek Molekula"],
  }
```

Task

To address this user story, you must modify the following schema so that the working set can fit in RAM:

COPY

```
{
  "_id": "<objectId>",
  "item_code": "<string>",
  "name": "<string>",
  "maker_brand": "<string>",
  "price": "<decimal>",
  "description": "<string>",
  "materials": ["<string>"],
  "country": "<string>",
  "image": "<string>",
  "available_sizes": {
    "mens": ["<string>"],
    "womens": ["<string>"]
  },
  "package_weight_kg": "<decimal>",
  "average_rating": "<decimal>",
  "reviews": [{
    "author": "<string>",
    "text": "<string>",
    "rating": "<int>"
  }],
  "questions": [{
    "author": "<string>",
    "text": "<string>",
    "likes": "<int>"
  }],
  "stock_amount": "<int>",
  "maker_address": {
    "building_number": "<string>",
    "street_name": "<string>",
    "city": "<string>",
    "country": "<string>",
    "postal_code": "<string>"
```

```
  },
  "makers": ["<string>"]
}
```

You should accomplish this task by completing the following steps:

- Remove the the maker address and the list of makers from the schema with the intention of moving those pieces of information to a separate collection.

- Replace the `reviews` and `questions` fields with `top_five_reviews` and `top_five_questions` respectively.

- Save your modified schema to a file named **pattern_subset.json**.

- Validate your answer on *Windows* by running in the **CMD** shell:

```
validate_m320 pattern_subset --file pattern_subset.json          [📋 COPY]
```

- Validate your answer on *MacOS* and *Linux* by running:

```
./validate_m320 pattern_subset --file pattern_subset.js         [📋 COPY]
◄ ▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬ ►
```

After running this script you will either be given a validation code or an error message indicating what might be missing in your file.

When you get the validation code, paste it in the text box below and click submit.

Attempts Remaining: Correct Answer ✅ ◯ ◯

Enter answer here:

```
5c9c02e1f752ec6b191c3c7f
```

Correct!	See detailed answer

Assignment is Due

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24 gru, 17:00 UTC