



Practice 15: Inventory Management

Lists of Lists and Complex Data Filtering
Module 4: Composite Data

What is a "List of Lists"?

In the real world, data doesn't exist in isolation. A product has a **name** and a **price**. In programming, we represent this by putting a small list (the product) inside a larger list (the inventory). It is like a table with rows and columns.

1. Table Structure

Imagine our technology inventory:

Index	Column 1 (Name)	Column 2 (Price)
1	Mouse	15 €
2	Monitor	120 €
3	Keyboard	19 €

To access the price of the Mouse in Snap!, we would request **item 2** of **item 1** from the global list.

THE CHALLENGE: Bargain Hunter 2.0

Objective: Create a program that analyzes a product catalog and tells us which items are affordable (less than 20€).

Steps to follow:

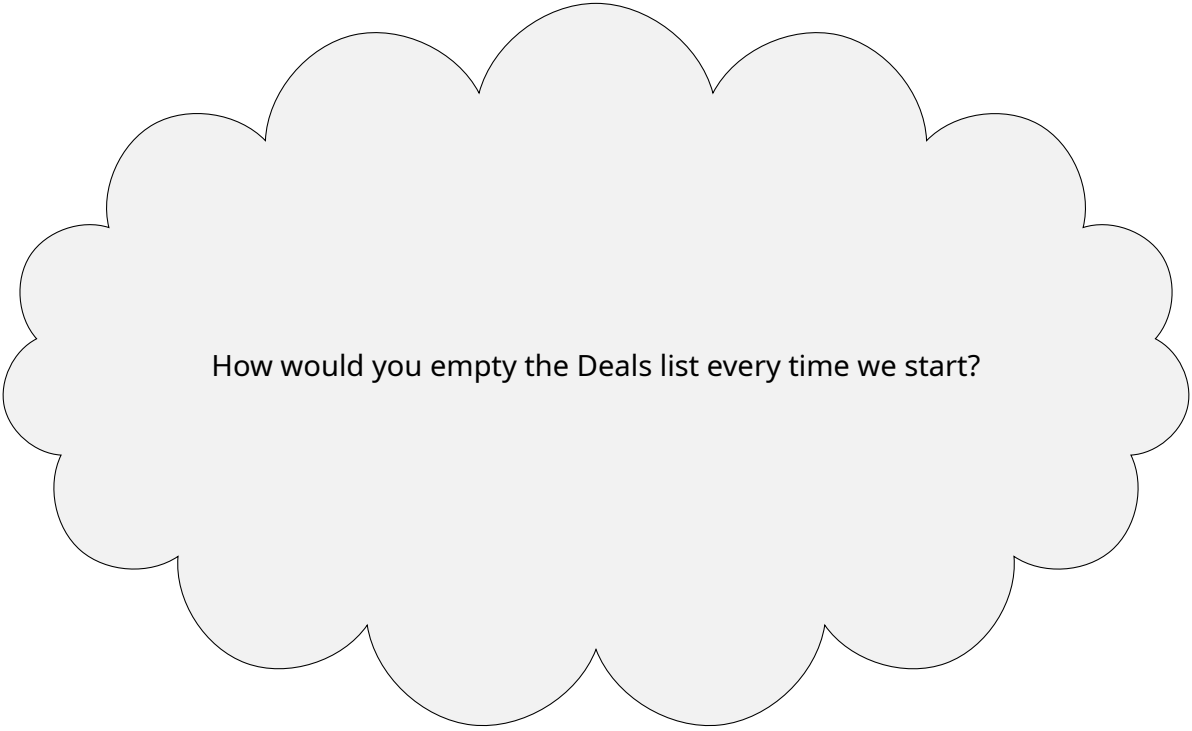
- Create the Catalog:** Create a variable `Catalog` (list). Add 5 items. Each item must be a **list** with a name and a price.
- Prepare the Output:** Create an empty list called `Deals`.
- The Filtering Algorithm:**
 - Use the **for each item of Catalog** block:
 - Create a temporary variable `current_price` and set it to **item 2 of item**.
 - If** `current_price < 20`, add the full `item` to the `Deals` list.
- Result:** Make the sprite say the names of the found products.

Code Analysis

```
for each (product) of (Catalog):  
  Variable P <- item (2) of (product)  
  if (P < 20):  
    add (product) to (Deals)
```

Pro Task: User Input

Modify the program to ask: **"What is your maximum budget?"**. Use the answer instead of 20.



How would you empty the Deals list every time we start?

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