**Project: Simple E-commerce Inventory Analyzer**

**Objective**

Your task is to write a single Python script that analyzes inventory data for a small online store. You will calculate key metrics, identify products based on specific criteria, and generate a final summary report. This project will test your skills with data types, loops, conditionals, and list comprehensions.

**Background**

Imagine you are a junior data analyst at a small e-commerce company. The manager has given you a list of products and wants you to write a program that can quickly provide a snapshot of the current inventory status.

**Step 1: The Data**

You can refer the following inventory list and place it at the top of your Python script. This is the only data you will need for this project.

inventory = [

{"id": 101, "name": "Wireless Mouse", "category": "Electronics", "price": 750, "stock\_quantity": 12, "is\_on\_sale": True},

{"id": 102, "name": "Python Handbook", "category": "Books", "price": 900, "stock\_quantity": 5, "is\_on\_sale": False},

{"id": 103, "name": "Coffee Mug", "category": "Kitchenware", "price": 400, "stock\_quantity": 25, "is\_on\_sale": True},

{"id": 104, "name": "Bluetooth Speaker", "category": "Electronics", "price": 2500, "stock\_quantity": 8, "is\_on\_sale": False},

{"id": 105, "name": "Data Science Intro", "category": "Books", "price": 1100, "stock\_quantity": 3, "is\_on\_sale": True}

]

**Step 2: Analysis Tasks**

Write Python code to perform the following analyses. You must create new variables to store the results of your calculations and the new lists you create.

1. **Calculate Total Inventory Value:**
   * Create a variable total\_value and initialize it to 0.
   * Use a for loop to iterate through each product in the inventory.
   * For each product, calculate its item value by multiplying its price by its stock\_quantity.
   * Add this item value to your total\_value variable.
2. **Identify Low-Stock Products:**
   * Create an empty list called low\_stock\_products.
   * Use a for loop to go through each product.
   * Inside the loop, use an if statement to check if the product's stock\_quantity is less than 10.
   * If it is, add the product's name to the low\_stock\_products list.
3. **Find Products by Category:**
   * Create an empty list called electronic\_products.
   * Loop through the inventory.
   * Use an if statement to check if a product's category is exactly "Electronics".
   * If it is, add the product's name to the electronic\_products list.

**Step 3: Use a List Comprehension**

This task requires you to use the more advanced list comprehension syntax.

1. **Create a List of On-Sale Items:**
   * Create a list called on\_sale\_items using a single **list comprehension**.
   * This list should contain the name of each product from the inventory where the is\_on\_sale value is True.

**Step 4: Print the Final Report**

At the very end of your script, use print() statements to display all your findings. The output must be clean, readable, and match the format below exactly.

**Expected Output:**

--- Inventory Analysis Report ---

Total Inventory Value: ₹19700

Low-Stock Products: ['Python Handbook', 'Bluetooth Speaker', 'Data Science Intro']

Products in Electronics Category: ['Wireless Mouse', 'Bluetooth Speaker']

On-Sale Items: ['Wireless Mouse', 'Coffee Mug', 'Data Science Intro']

--- End of Report ---

**Concepts to Use:**

* **Data Types:** Lists, Dictionaries, Strings, Integers, Booleans
* **Loops:** for loops
* **Conditionals:** if statements
* **List Comprehensions**
* **Nested Data Access** (e.g., product['name'])
* **Basic Arithmetic** (\*, +)