Coding Standards Followed

1. Consistent Naming Conventions

* Meaningful variable names: product\_id, start\_week, product\_price, avg\_sales.
* Function names are descriptive: load\_and\_clean\_data, calculate\_average\_sales, normalize\_data, prepare\_model\_data.

2. Code Organization

* Functions and classes are well-organized.
* Grouping related functionality within functions and classes.

3. Commenting and Documentation

* Print statements are used for debugging and tracking progress.

4. Error Handling

* Not extensively used, but some potential errors are managed with data cleaning (removing null values and rows with zero values).

5. Code Readability

* Consistent indentation.
* Logical grouping of code sections with blank lines.

6. Avoid Hardcoding

* Constants for values like epochs, batch\_size, test\_size, etc., are defined and used.

7. Efficiency and Performance

* Use of ThreadPoolExecutor for parallel processing in particle\_swarm.