

Pricing Engine

Overview

This script automatically adjusts product prices based on stock levels and recent sales data, ensuring each product remains profitable. It applies a set of prioritized business rules to determine the new price and generates an updated pricing CSV file.

Files

- `pricing_engine.py` – The main Python script to process input data and apply pricing logic.
- `products.csv` – Input file containing product information (price, cost, stock).
- `sales.csv` – Input file containing recent quantity sold per SKU.
- `updated_prices.csv` – Output file with old and new prices for each product.
- `README.md` – This explanation file.

Pricing Rules

The following rules are applied in order of priority:

1. ****Low Stock, High Demand****

- Condition: `stock < 20` and `quantity_sold > 30`
- Action: Increase price by 15%

2. ****Dead Stock****

- Condition: `stock > 200` and `quantity_sold == 0`
- Action: Decrease price by 30%

3. ****Overstocked Inventory****

- Condition: ``stock > 100`` and ``quantity_sold < 20``
- Action: Decrease price by 10%

4. ****Minimum Profit Constraint**** **(Always applied)**

- Condition: Ensure price is at least 20% above cost price
- Action: If not, set price to ``cost_price * 1.2``

- All prices are rounded to 2 decimal places.

- All prices in the output are formatted with ``$`` units.

How to Run

Make sure you have Python and pandas installed.

```
```bash
```

```
pip install pandas
```

```
python pricing_engine.py
```