

**Dataset 1:** `products.csv`

This dataset contains information about products and their unique product codes.

product_id	product_name	product_code	category
101	Smart Watch	SW-1234-AB	Electronics
102	Wireless Earbuds	WE-5678-CD	Electronics
103	Running Shoes	RS-9012-EF	Footwear
104	Bluetooth Speaker	BS-3456-GH	Electronics
105	Casual Sneakers	CS-7890-IJ	Footwear

**Dataset 2:** `sales.csv`

This dataset contains sales transactions with descriptions of products purchased.

transaction_id	description	amount
T001	Bought Smart Watch (SW-1234-AB)	199.99
T002	Purchased Wireless Earbuds WE-5678-CD	99.99
T003	Running Shoes - RS9012EF	149.99
T004	Bluetooth Speaker (BS-3456-GH)	49.99
T005	Sneakers Casual, Code: CS-7890-IJ	79.99

**Tasks:**

1. **Data Transformation:** Extract the product\_code from the description column in sales.csv using regex. Ensure that the extracted codes match the format in products.csv (e.g., SW-1234-AB).
2. **Pattern Matching:** Match the extracted product\_code with the corresponding product\_name in products.csv and create a new column in sales.csv named product\_name.
3. **Analysis:** Calculate the total sales amount for each category (using the category column in products.csv) and display the results as a summary table.

**Expected Output:**

Transformed `sales.csv` with `product_name`:

transaction_id	description	amount	product_name
T001	Bought Smart Watch (SW-1234-AB)	199.99	Smart Watch
T002	Purchased Wireless Earbuds WE-5678-CD	99.99	Wireless Earbuds
T003	Running Shoes - RS9012EF	149.99	Running Shoes
T004	Bluetooth Speaker (BS-3456-GH)	49.99	Bluetooth Speaker
T005	Sneakers Casual, Code: CS-7890-IJ	79.99	Casual Sneakers

**Category-Wise Sales Summary:**

category	total_sales
Electronics	349.97
Footwear	229.98