

A01794327_A5.2.py

```
1  """
2  The Python script calculates the total sales cost from JSON data on product
3  prices and sales records, writing the results and execution time to both the
4  console and a file named SalesResults.txt, requires 2 input files: The first
5  file will contain information in a JSON format about a catalogue of prices of
6  products. The second file will contain a record for all sales in a company"""
7
8  import json
9  import sys
10 import time
11
12
13 def load_json_file(filename):
14     """Load JSON data from a file, handling specific exceptions."""
15     try:
16         with open(filename, 'r', encoding='utf-8') as file:
17             return json.load(file)
18     except FileNotFoundError:
19         print(f"File not found: {filename}")
20         return None
21     except json.JSONDecodeError:
22         print(f"Invalid JSON format in file: {filename}")
23         return None
24     except IOError as e:
25         print(f"Unexpected error loading file {filename}: {e}")
26         return None
27
28
29 def calculate_total_sales_cost(products, sales):
30     """Calculate the total sales cost """
31     prices = {product['title']: product['price'] for product in products}
32     calculated_total_cost = 0
33     for sale in sales:
34         product_title = sale.get('Product')
35         quantity = sale.get('Quantity', 0)
36         if product_title in prices:
37             calculated_total_cost += prices[product_title] * quantity
38         else:
39             print(
40                 f"Warning: Product '{product_title}' "
41                 f"not found in price catalogue."
42             )
43     return calculated_total_cost
44
45
46 def write_results_to_file(content):
47     """Write results to a specified file, specifying encoding."""
48     filename = "SalesResults.txt"
49     try:
50         with open(filename, 'a', encoding='utf-8') as file:
51             file.write(content)
52     except IOError as e:
53         print(f"Error writing to file {filename}: {e}")
```

```
54
55
56 if __name__ == "__main__":
57     start_time = time.time()
58
59     if len(sys.argv) != 3:
60         print("Usage: python computeSales.py"
61             "priceCatalogue.json salesRecord.json")
62         sys.exit(1)
63
64     price_catalogue_filename = sys.argv[1]
65     sales_record_filename = sys.argv[2]
66
67     product_list = load_json_file(price_catalogue_filename)
68     sales_list = load_json_file(sales_record_filename)
69
70     if product_list is None or sales_list is None:
71         sys.exit("Error: One or more files could not be loaded.")
72
73     total_sales_cost = calculate_total_sales_cost(product_list, sales_list)
74
75     results_content = (
76         f"\nCatalogo: {price_catalogue_filename}\n"
77         f"Lista: {sales_record_filename}\n"
78         f"Total Sales Cost: ${total_sales_cost:.2f}\n"
79     )
80     execution_time = time.time() - start_time
81     results_content += f"Execution Time: {execution_time:.4f} seconds\n"
82
83     print(results_content)
84     write_results_to_file(results_content)
85
```