

ASSIGNMENT_6.3

Course: AI Assisted Coding

Course Code: 23CS002PC304.

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A supermarket wants to automate its monthly sales analysis system using a Python program to help the manager understand product-wise and day-wise sales performance. You are required to develop a console-based application that uses multiple loops to process sales data. The program should first ask for the number of days in the month and then, for each day, ask for the number of products sold. Using a nested loop structure, the program should accept the name of each product and the quantity sold on that day. The program must calculate the total quantity sold for each product across all days and also compute the overall sales quantity for the entire month. After processing all inputs, the program should display a clear summary showing day-wise sales, product-wise totals and the grand total sales for the month. The system should allow the manager to repeat the analysis for another month if required.

CODE:

```
while True:
    print("\n=== Monthly Sales Analysis System ===")

    days = int(input("Enter number of days in the month: "))

    day_wise_sales = []
    product_totals = {}
    grand_total = 0
```

```

# Loop for each day
for day in range(1, days + 1):
    print(f"\nDay {day}")
    num_products = int(input("Enter number of products sold today: "))

    daily_sales = {}

    # Nested loop for products
    for _ in range(num_products):
        product_name = input("Enter product name: ")
        quantity = int(input("Enter quantity sold: "))

        daily_sales[product_name] = daily_sales.get(product_name, 0) +
quantity
        product_totals[product_name] =
product_totals.get(product_name, 0) + quantity
        grand_total += quantity

    day_wise_sales.append(daily_sales)

# Display summary
print("\n=== Sales Summary ===")

print("\nDay-wise Sales:")
for i, sales in enumerate(day_wise_sales, start=1):
    print(f"Day {i}:")
    for product, qty in sales.items():
        print(f"    {product}: {qty}")

print("\nProduct-wise Total Sales:")
for product, total in product_totals.items():
    print(f"{product}: {total}")

print("\nGrand Total Sales for the Month:", grand_total)

# Repeat option
choice = input("\nDo you want to analyze another month? (yes/no):
").lower()
if choice != "yes":
    print("\nThank you for using the Sales Analysis System!")

```

break

OUTPUT:

=== Monthly Sales Analysis System ===

Enter number of days in the month: 2

Day 1

Enter number of products sold today: 2

Enter product name: rice

Enter quantity sold: 5

Enter product name: sugar

Enter quantity sold: 6

Day 2

Enter number of products sold today: 3

Enter product name: rice

Enter quantity sold: 4

Enter product name: oil

Enter quantity sold: 7

Enter product name: salt

Enter quantity sold: 6

=== Sales Summary ===

Day-wise Sales:

Day 1:

rice: 5

sugar: 6

Day 2:

rice: 4

oil: 7

salt: 6

Product-wise Total Sales:

rice: 9

sugar: 6

oil: 7

salt: 6

Grand Total Sales for the Month: 28

Do you want to analyze another month? (yes/no): no

Thank you for using the Sales Analysis System!