SCHOOL OF COMPUTER SCIENCE AND ARTIFICIAL INTELLIGENCE		DEPARTMENT OF COMPUTER SCIENCE ENGINEERING	
Program Name: B. Tech		**Assignment Type: Lab**	**Academic Year:**2025-2026
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Course Code	24CS002PC215	**Course Title**	AI Assisted Coding
Year/Sem	II/I	**Regulation**	R24
Date and Day of Assignment	06-08-2025	**Time(s)**	
Duration	2 Hours	**Applicable to Batches**	
AssignmentNumber:6.5(Present assignment number)/**24**(Total number of assignments)			

Q.No.	Question	*ExpectedTime to complete*
1	**Lab 6: AI-Based Code Completion: Working with suggestions for classes, loops, conditionals** Lab Assignment 1: Intelligent Code Completion for Object-Oriented Programming **Objective:** To explore AI-powered code assistants for writing Python classes, constructors, and methods through intelligent suggestions. Suppose that you are hired as an intern at a tech company that develops inventory management systems. Your manager asks you to create a **Product** class and a **Warehouse** class with some basic methods. You have decided to use AI-powered code suggestions to help speed up development and reduce syntax errors. Tasks to be completed are as below **1. Setup AI Coding Tool:** • Install and configure GitHub Copilot or Kite with VS Code or JetBrains IDE. • Enable real-time code suggestions. **Setting Up and Using GitHub Copilot in VS Code:** 1. Launched VS Code and opened the Extensions view. 2. Searched for and installed the GitHub Copilot extension. Logged in with a GitHub account.	15.08.2025 EOD

3. Created a new file and started writing code.
4. While coding, Copilot shows inline hints press tab to accept a suggestion.

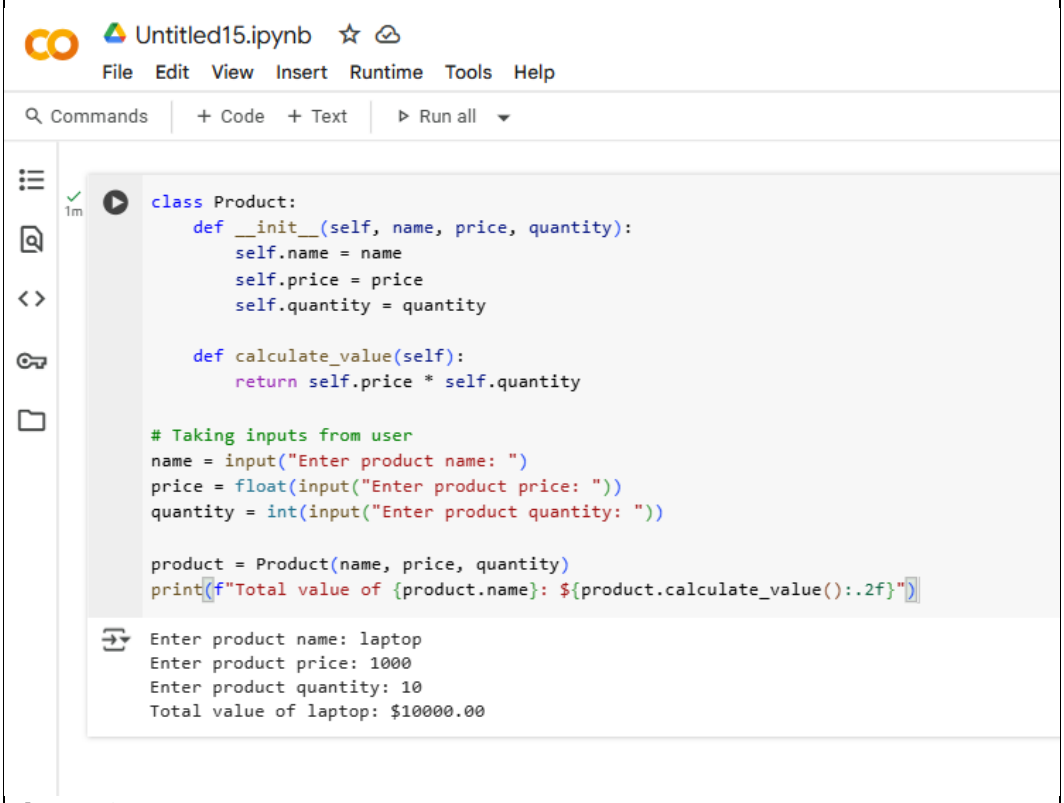
2. Class Design Using AI Assistance:

- Begin defining a Product class with attributes: name, price, quantity.
- Use the AI suggestion feature to automatically complete the __init__() method.
- Add a method calculate_value() to return price * quantity.

Prompt

1.Create a Python program to define a Product class with the following features :Name, price and quantity.A method calculate_value() that returns the total value of the product (price × quantity).
2.In the main code, take product details as input from the user.

Code



Observations:

1.User provides product details (name, price, quantity).

2.The method calculate_value() computes total cost.

3.Output clearly shows product name and total value

Code Explanation:

1. class Product: → Defines the product
2. _init_ → Initializes name, price, and quantity.
3. calculate_value() → Returns price * quantity.
4. input() → Takes product details from user.
5. Displays product name and total value.

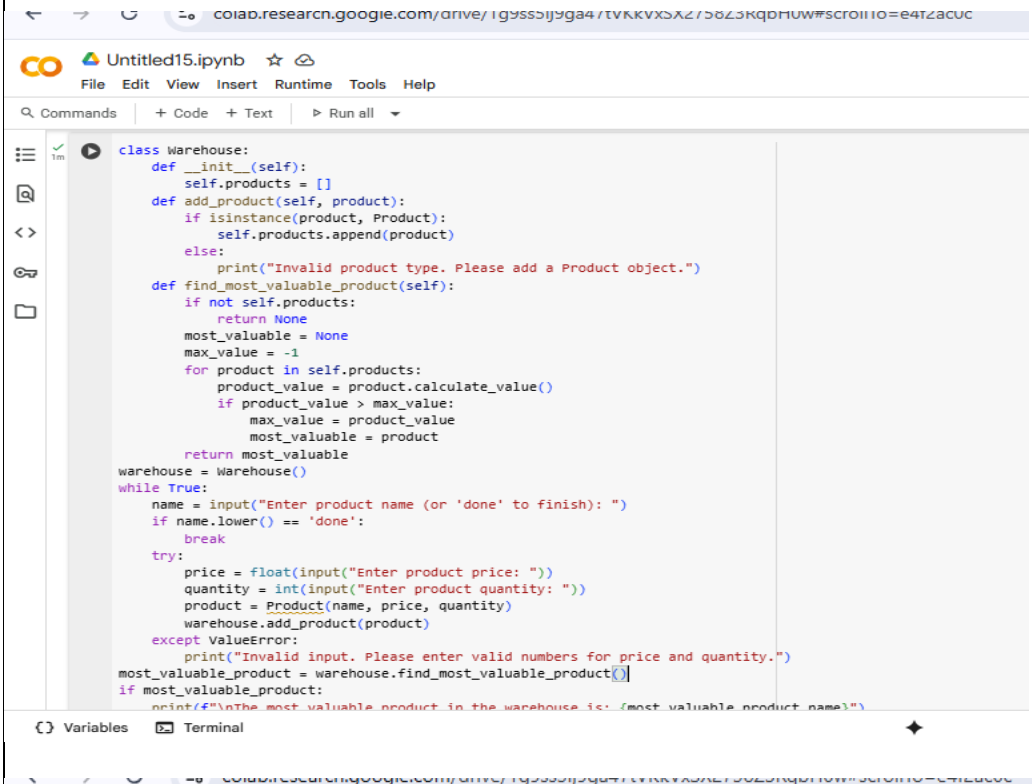
3. Create Another Class:

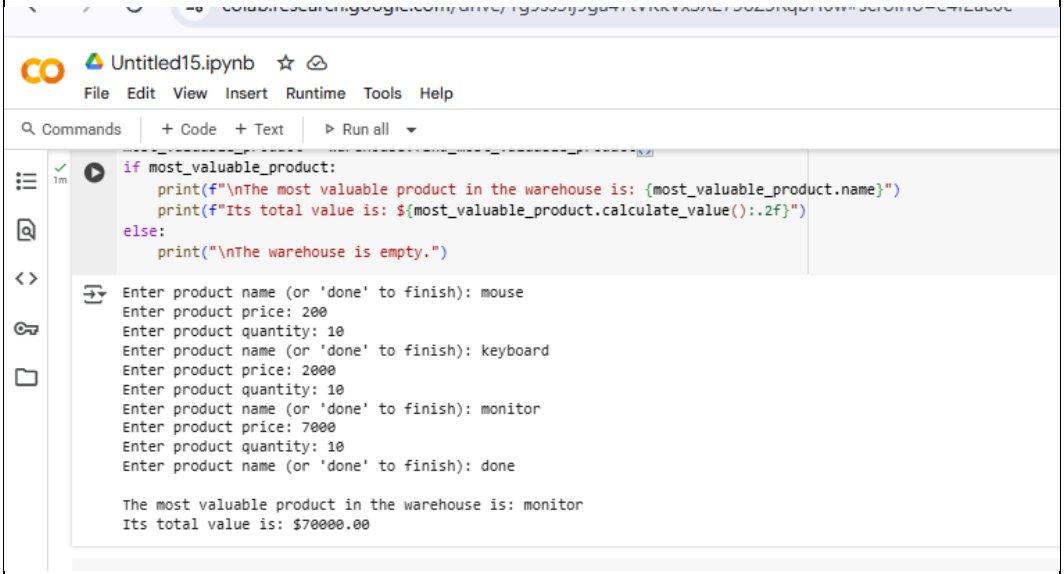
- Define a Warehouse class with a list of Product objects.
- Use code completion to help implement**:**
  - A method to add a product.
  - A method to display the most valuable product.

Prompt:

1.Create a Python program with Product and Warehouse classes to store multiple products, take user input, and display the most valuable product

Code:





Observations:

1. Warehouse can store multiple Product objects in a list.
2. User inputs product details dynamically (name, price, quantity).
3. calculate_value() computes total value for each product.
4. most_valuable_product() identifies the product with the highest total value.

Code Explanation:

1. class Warehouse: → Holds multiple Product objects and related methods
2. __init__ → Initializes name, price, quantity for each product object
3. calculate_value() → Returns price × quantity.
4. most_valuable_product() → Uses max() with a key function to find highest value.

4. Reflection:

- Identify how much of the code was completed by AI and what manual edits were needed.
- Comment on the relevance and accuracy of AI suggestions.

Reflection on AI Coding Tool:

The AI contributed to most of the code by suggesting the class design, constructors, and methods**,** while I implemented the user input, loops for adding multiple products, and the output display. Its recommendations were largely accurate and time-saving, though slight modifications were needed to the program to my requirements.

Requirements:

- VS Code with Github Copilot or Cursor API and/or Google Colab with Gemini

Deliverables:

- Python script with both classes and comments on AI-generated suggestions.
- Short report (1 page) summarizing your experience with AI code completion.

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