

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	<p>Lab 6: AI-Based Code Completion: Working with suggestions for classes, loops, conditionals</p> <p><u>Lab Assignment 1: Intelligent Code Completion for Object-Oriented Programming</u></p> <p>Objective: To explore AI-powered code assistants for writing Python classes, constructors, and methods through intelligent suggestions.</p> <p>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.</p> <p>Tasks to be completed are as below</p> <p>1. Setup AI Coding Tool:</p> <ul style="list-style-type: none"> Install and configure GitHub Copilot or Kite with VS Code or JetBrains IDE. Enable real-time code suggestions. <p>2. Class Design Using AI Assistance:</p> <ul style="list-style-type: none"> Begin defining a Product class with attributes: name, price, quantity. Use the AI suggestion feature to automatically complete the <code>__init__()</code> method. Add a method <code>calculate_value()</code> to return <code>price * quantity</code>. 	15.08.2025 EOD	

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assignment65.py X
assignment65.py > ...
1 class Product:
2     def __init__(self, name, price):
3         self.name = name
4         self.price = price
5     def total_value(self, quantity):
6         return self.price * quantity

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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.
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38         return self.price * quantity
39
40     def add_product(self, product):
41         self.products.append(product)
42
43     def display_products(self):
44         for product in self.products:
45             print(f"Product: {product.name}, Price: {product.price}")
46
47     def most_valuable_product(self):
48         if not self.products:
49             return None
50         max_value = 0
51         max_product = None
52         for product in self.products:
53             value = product.price * product.quantity
54             if value > max_value:
55                 max_value = value
56                 max_product = product
57         return max_product
58
59     def __str__(self):
60         return f"Warehouse: {self.name}"
61
62 # Example usage:
63 warehouse = Warehouse("Main Warehouse")
64 product1 = Product("Laptop", 1200)
65 product2 = Product("Smartphone", 800)
66 product3 = Product("Tablet", 300)
67 warehouse.add_product(product1)
68 warehouse.add_product(product2)
69 warehouse.add_product(product3)
70 warehouse.display_products()
71 max_valuable = warehouse.most_valuable_product()
72 if max_valuable:
73     print(f"Most valuable product: {max_valuable.name}, Value: {max_valuable.price * max_valuable.quantity}")
74 else:
75     print("No products in warehouse.")
76
77 # Output:
78 Warehouse: Main Warehouse
79 Product: Laptop, Price: 1200
80 Product: Smartphone, Price: 800
81 Product: Tablet, Price: 300
82 Most valuable product: Laptop, Value: 12000
83

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Output:

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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.

	<p>Requirements:</p> <ul style="list-style-type: none">• VS Code with Github Copilot or Cursor API and/or Google Colab with Gemini <p>Deliverables:</p> <ul style="list-style-type: none">• 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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