

SCHOOL OF COMPUTER SCIENCE AND ARTIFICIAL INTELLIGENCE		DEPARTMENT OF COMPUTER SCIENCE ENGINEERING	
Program Name: B. Tech		Assignment Type: Lab	Academic Year:2025-2026
Course Coordinator Name		Venkataramana Veeramsetty	
Instructor(s)Name		1. Dr. Mohammed Ali Shaik 2. Dr. T Sampath Kumar 3. Mr. S Naresh Kumar 4. Dr. V. Rajesh 5. Dr. Brij Kishore 6. Dr Pramoda Patro 7. Dr. Venkataramana 8. Dr. Ravi Chander 9. Dr. Jagjeeth Singh	
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 __init__() method. Add a method calculate_value() to return price * quantity. 	15.08.2025 EOD	

Code:

```
1 class Product:
2     def __init__(self, name, price, quantity):
3         self.name = name
4         self.price = price
5         self.quantity = quantity
6
7     def calculate_value(self):
8         return self.price * self.quantity
9
10    def __str__(self):
11        return f"Product(name={self.name}, price={self.price}, quantity={self.quantity})"
12
```

•
Output:

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
PS C:\PROGRAMMES VSCODE\AI coding> & 'c:\Users\venkatesh\AppData\Local\Programs\Python\Python313\python.exe'
4\bundled\libs\debugpy\launcher '49779' '--' 'c:\PROGRAMMES VSCODE\AI coding\ass6.5.py'
PS C:\PROGRAMMES VSCODE\AI coding>
```

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.

Code:

```
13 class Warehouse:
14     def __init__(self):
15         self.products = []
16
17     def add_product(self, product):
18         if isinstance(product, Product):
19             self.products.append(product)
20
21     def total_value(self):
22         return sum(product.calculate_value() for product in self.products)
23
24     def __str__(self):
25         return f"Warehouse({[str(product) for product in self.products]})"
```

```
10ms MS-Python-Debugpy-2025.10.0-Win32-x64 (bundled\libs\debugpy\launcher 63049 -- c:\PROGRAMMES VSCODE\AI coding\ass6.5.py)
Warehouse(['Product(name=Laptop, price=1000, quantity=5)', 'Product(name=Phone, price=500, quantity=10)'])
PS C:\PROGRAMMES VSCODE\AI coding>
```

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.

Comment:

- The AI suggestions were relevant and accurate in building a basic inventory management system. It correctly identified the need for Product and Warehouse classes and implemented methods for adding products and calculating total value. The code is well-structured and follows object-oriented principles.
-

Requirements:

- 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. • <p>Summarise;</p> <ul style="list-style-type: none"> • The AI has built a simple inventory management system with Product and Warehouse classes. • It allows adding products to the warehouse and calculating their total value. • • The code demonstrates basic object-oriented programming principles in Python. • It showcases how to model real-world entities (products and a warehouse) using classes. • The implementation is straightforward, making it easy to understand and extend. • how much of the code was completed by AI and what manual edits were needed. • 	
--	---	--