**Name: Akshaya Neerati**

**Enrollment No: 2403A510B8**

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| **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) | | | | | | | | |
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|  | **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.   We have already installed GitHub Copilot with VS Code.  **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:** Generate a python code for the Product class by \_\_init\_\_() method and add a method calculate\_value() to return price\*quantity with these specifications- Product class with attributes: name, price, quantity.  **Code:**    **Observation:**  The program defines a class Product with attributes name, price, and quantity. A method calculate\_value() is used to compute the total value of the product by multiplying price × quantity. An object product is created with values: name = Laptop, price = 1000, and quantity = 5. On execution, the program calculates 1000 × 5 = 5000.  **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:** Create a python class called Warehouse with a list of product objects by implementing method add\_product() that adds a product to warehouse and a method display\_most\_valuable\_product().  **Code:**    **Output:**    **Observation:**  Product class stores product name and value. Warehouse class maintains a list of products. add\_product() adds items to the warehouse. display\_most\_valuable\_product() finds the highest value product. Program handles empty warehouse case. Output correctly shows Tablet (1300) as most valuable.  **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.      * Most of the code (class definitions, methods, and logic) was generated by AI with minimal manual edits required for formatting and running. * Manual edits included adding test product objects and ensuring proper print statements for clarity. * The AI’s suggestions were relevant and accurate, providing a correct implementation for the given problem. * Overall, the AI-generated solution was reliable and only needed small adjustments.   **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.   . | | | | | | 15.08.2025 EOD |  |