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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.**   **Summary : Installed successfully .**  **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 :**  **Create a Python program that defines a class called Student and includes the attributes name, roll\_number, and marks. To initialize these values, use the \_\_init\_\_ method. Include a way to calculate the student's grade (A, B, C, etc.) based on their grades. Create a student class instance using user input, then show the student's details and grade.**    **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 :**  **Develop a Python program to create a Library class with an array of Book objects. The Book object must have properties such as title, author, and copies. Include methods in the Library class to insert a new book and to display the book with the maximum number of copies available.**    **Prompt2:**  **Write a Python script in which you have a Library class with a list of Book objects. The book will have attributes such as title, author, and copies. Include functionality to add a book to the library and to print out the book with the maximum number of copies. Get book information from user’s input.**    **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.**   **Summary :**  **“The entire code was generated by AI without requiring manual edits. The AI’s suggestions were accurate and highly relevant, providing a correct and efficient solution for the task.”**  **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** |  |