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| **SCHOOL OF COMPUTER SCIENCE AND ARTIFICIAL INTELLIGENCE** | | | | | **DEPARTMENT OF COMPUTER SCIENCE ENGINEERING** | | | | |
| NAME: PATNAM SHRAVANI  ENROLL NO.:2403A51286  BATCH NO.:12 | | | | **Assignment Type: Lab** | | | **AcademicYear:**2025-2026 | | |
| **CourseCoordinatorName** | | | | Venkataramana Veeramsetty | | | | | |
| **Instructor(s)Name** | | | | |  | | --- | | Dr. V. Venkataramana (Co-ordinator) | | Dr. T. Sampath Kumar | | Dr. Pramoda Patro | | Dr. Brij Kishor Tiwari | | Dr.J.Ravichander | | Dr. Mohammand Ali Shaik | | Dr. Anirodh Kumar | | Mr. S.Naresh Kumar | | Dr. RAJESH VELPULA | | Mr. Kundhan Kumar | | Ms. Ch.Rajitha | | Mr. M Prakash | | Mr. B.Raju | | Intern 1 (Dharma teja) | | Intern 2 (Sai Prasad) | | Intern 3 (Sowmya) | | NS\_2 ( Mounika) | | | | | | |
| **CourseCode** | | | 24CS002PC215 | **CourseTitle** | | AI Assisted Coding | | | |
| **Year/Sem** | | | II/I | **Regulation** | | R24 | | | |
| **Date and Day**  **of Assignment** | | | Week4 - Wednesday | **Time(s)** | |  | | | |
| **Duration** | | | 2 Hours | **Applicableto**  **Batches** | |  | | | |
| **AssignmentNumber:7.3**(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 – Classes, Loops, and Conditionals  **Lab Objectives:**   * To identify and correct syntax, logic, and runtime errors in Python programs using AI tools. * To understand common programming bugs and AI-assisted debugging suggestions. * To evaluate how AI explains, detects, and fixes different types of coding errors. * To build confidence in using AI to perform structured debugging practices.   **Lab Outcomes (LOs):**  After completing this lab, students will be able to:   * Use AI tools to detect and correct syntax, logic, and runtime errors. * Interpret AI-suggested bug fixes and explanations. * Apply systematic debugging strategies supported by AI-generated insights. * Refactor buggy code using responsible and reliable programming patterns.   **Task Description#1**   * Paste a function with a missing colon (add(a, b)), and let AI fix the syntax error.     **Expected Output#1**  Corrected function with syntax fix  **CODE & OUTPUT:**  WhatsApp Image 2025-09-02 at 22.13.23_6c1aaa79  **EXPLANATION ABOUT SYNTAX ERROR:**  In the above program, a colon (:) was missing at the end of the function definition line (def add(a, b):). This caused a syntax error. After adding the missing colon, the syntax error was resolved and the program ran correctly.  **Task Description#2 (Loops)**   * Identify and fix a logic error in a loop that causes infinite iteration.     **CODE:**  **WhatsApp Image 2025-09-02 at 22.34.04_ea3e73ab**  **Expected Output#2**   * AI fixes increment/decrement error   **WhatsApp Image 2025-09-02 at 22.34.19_d9fc2e7f**  **EXPLANATION:**  The error is in this line: n += 1. It **increases** the number, so the loop never stops because n stays above 0 forever. To fix it, change it to n -= 1 to **decrease** n each time, letting the loop count down and end properly.  **Task Description#3**   * Debug a runtime error caused by division by zero. Let AI insert try-except.     **CODE:**  **WhatsApp Image 2025-09-02 at 22.40.53_f3fb7dbf**  **Expected Output#3**   * Corrected function with safe error handling**WhatsApp Image 2025-09-02 at 22.41.09_e688387a**   **EXPLANATION:**  The code tries to divide a by b inside a try block. If b is zero, it causes a ZeroDivisionError, which is caught by the except block, and instead of crashing, it returns a friendly error message. This way, the program handles division by zero gracefully.  **Task Description#4**   * Provide a faulty class definition (missing self in parameters). Let AI fix it     **CODE:**  **WhatsApp Image 2025-09-02 at 22.45.18_b4dddba1Expected Output#4**   * Correct \_\_init\_\_() method and explanation**WhatsApp Image 2025-09-02 at 22.45.34_a84998a8**   **Explanation:**  The class Rectangle has a constructor \_init\_ that initializes the object’s length and width. The self parameter refers to the instance being created, allowing the method to set attributes for that specific object. Without self, the code won’t work correctly.  **Task Description#5**   * Access an invalid list index and use AI to resolve the Index Error.     **CODE:**  **WhatsApp Image 2025-09-02 at 22.49.02_3cc48330**  **Expected Output#5**   * AI suggests checking length or using safe access logic**WhatsApp Image 2025-09-02 at 22.49.18_8d680493**   **EXPLANATION:**  The code tries to access an index that doesn’t exist in the list, causing an IndexError. The try-except block catches this error and prints a friendly message instead of crashing the program.  **Note: Report should be submitted a word document for all tasks in a single document with prompts, comments & code explanation, and output and if required, screenshots**  **Evaluation Criteria:**   | **Criteria** | **Max Marks** | | --- | --- | | Identification of bugs | 0.5 | | Application of AI-suggested fixes | 0.5 | | Explanation and understanding of errors | 0.5 | | Corrected code functionality | 0.5 | | Report structure and reflection | 0.5 | | **Total** | **2.5 Marks** | | | | | | | Week4 - Wednesday |  |