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| **SCHOOL OF COMPUTER SCIENCE AND ARTIFICIAL INTELLIGENCE** | | | | | **DEPARTMENT OF COMPUTER SCIENCE ENGINEERING** | | | | |
| **ProgramName:**B. Tech | | | | **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:9.3**(Present assignment number)/**24**(Total number of assignments) | | | | | | | | | |
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|  | **Q.No.** | **Question** | | | | | | | ***ExpectedTi me***  ***to***  ***complete*** |
|  | 1 | Lab 8: Documentation Generation: Automatic documentation and code comments  **Lab Objectives:**   * To understand the importance of documentation and code comments in software development. * To explore how AI-assisted coding tools can generate meaningful documentation and | | | | | | | Week4 - Wednesday |

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|  | inline comments.   * To practice generating function-level and module-level docstrings automatically. * To evaluate the quality, accuracy, and limitations of AI-generated documentation. * To develop a small automated tool for documentation generation in Python..   **Lab Outcomes (LOs):**  After completing this lab, students will be able to:   * Apply AI-assisted coding tools to generate docstrings and inline comments for Python code. * Critically analyze AI-generated documentation for correctness, completeness, and readability. * Create structured documentation (function-level, module-level) following standard formats. * Design and implement a mini documentation generator tool to automate code commenting and docstring creation.   **Task Description#1 Basic Docstring Generation**   * + Write python function to return sum of even and odd numbers in the given list.   + Incorporate manual **docstring** in code with Google Style   + Use an AI-assisted tool (e.g., Copilot, Cursor AI) to generate a docstring describing the function.   + Compare the AI-generated docstring with your manually written one.   **Expected Outcome#1:** Students understand how AI can produce function-level documentation.  **Task Description#2 Automatic Inline Comments**   * Write python program for **sru\_student** class with attributes like name, roll no., hostel\_status and **fee\_update** method and **display\_details** method. * Write comments manually for each line/code block * Ask an AI tool to add inline comments explaining each line/step. * Compare the AI-generated comments with your manually written one.   **Expected Output#2:** Students critically analyze AI-generated code comments.  **Task Description#3**   * Write a Python script with 3–4 functions (e.g., calculator: add, subtract, multiply, divide). * Incorporate manual **docstring** in code with NumPy Style * Use AI assistance to generate a module-level docstring + individual function docstrings. * Compare the AI-generated docstring with your manually written one.   **Expected Output#3:** Students learn structured documentation for multi-function scripts  **Push documentation whole workspace as .md file in GitHub Repository**  **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** |  |

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|  | **TASK 1:**  **CODE BY USER:**    **MANUAL DOCSTRING CODE :**    **DOCSTRING IN CODE WITH GOOGLE STYLE :** |  |

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|  | **COMPARISION : The user docstring is informal,simple and easy to understand to a friend where as ai docstring is formal, structutred and formatting (like ards and returns).**  **TASK 2:**  **CODE BY USER:** |  |

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|  | **OUTPUT:** |  |
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|  | **MANUAL COMMENTS:**    **INLINE COMMENTS EXPLAINED BY THE AI :** |  |

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|  | **COMPARISION : The user docstring is informal,simple and easy to understand to a friend where as ai docstring is formal, structutred and suitable for technical documentation.**  **TASK 3:**  **CODE BY USER :** |  |

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|  | **MANUAL DOCSTRING WITH CODE IN NUMPY STYLE:** |  |

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|  | **GENERATED BY A MODULE-LEVEL DOCSTRING+INDIVIDUAL FUNCTION :** |  |

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|  | * **COMPARISION : The user docstring is very short ,informal,and direct where as ai docstring is longer,formal and follows documentation standards like numpy,return values.** |  |

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