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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** | | | | Dr. Rishabh Mittal | | | | | |
| **Instructor(s) Name** | | | | |  | | --- | | Mr. S Naresh Kumar | | Ms. B. Swathi | | Dr. Sasanko Shekhar Gantayat | | Mr. Md Sallauddin | | Dr. Mathivanan | | Mr. Y Srikanth | | Ms. N Shilpa | | Dr. Rishabh Mittal (Coordinator) | | Dr. R. Prashant Kumar | | Mr. Ankushavali MD | | Mr. B Viswanath | | Ms. Sujitha Reddy | | Ms. A. Anitha | | Ms. M.Madhuri | | Ms. Katherashala Swetha | | Ms. Velpula sumalatha | | Mr. Bingi Raju | | | | | | |
| **CourseCode** | | | 23CS002PC304 | **Course Title** | | AI Assisted Coding | | | |
| **Year/Sem** | | | III/II | **Regulation** | | R23 | | | |
| **Date and Day**  **of Assignment** | | | **Week2 –** | **Time(s)** | | 23CSBTB01 To 23CSBTB52 | | | |
| **Duration** | | | 2 Hours | **Applicable to**  **Batches** | | All batches | | | |
| **Assignment Number: 4.1**(Present assignment number)/**24**(Total number of assignments) | | | | | | | | | |
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|  | **Q.No.** | **Question** | | | | | | ***Expected Time***  ***to complete*** |  |
|  | 1 | Question 1: Zero-Shot Prompting (Leap Year Check)  Write a zero-shot prompt to generate a Python function that checks whether a given year is a leap year.  Task:   * Record the AI-generated code. * Test with years like 1900, 2000, 2024. * Identify logical flaws or missing conditions.   Question 2: One-Shot Prompting (GCD of Two Numbers)  Write a one-shot prompt with one example to generate a Python function that finds the Greatest Common Divisor (GCD) of two numbers.  Example: Input: 12, 18 → Output: 6  Task:   * Compare with a zero-shot solution. * Analyze algorithm efficiency.   Question 3: Few-Shot Prompting (LCM Calculation)  Write a few-shot prompt with multiple examples to generate a Python function that computes the Least Common Multiple (LCM).  Examples:   * Input: 4, 6 → Output: 12 * Input: 5, 10 → Output: 10 * Input: 7, 3 → Output: 21   Task:   * Examine how examples guide formula selection. * Test edge cases.   Question 4: Zero-Shot Prompting (Binary to Decimal Conversion)  Write a zero-shot prompt to generate a Python function that converts a binary number to decimal.  Task:   * Test with valid and invalid binary inputs. * Identify missing validation logic.   Question 5: One-Shot Prompting (Decimal to Binary Conversion)  Write a one-shot prompt with an example to generate a Python function that converts a decimal number to binary.  Example: Input: 10 → Output: 1010  Task:   * Compare clarity with zero-shot output. * Analyze handling of zero and negative numbers.   Question 6: Few-Shot Prompting (Harshad Number Check)  Write a few-shot prompt to generate a Python function that checks whether a number is a Harshad (Niven) number.  Examples:   * Input: 18 → Output: Harshad Number * Input: 21 → Output: Harshad Number * Input: 19 → Output: Not a Harshad Number   Task:   * Test boundary conditions. * Evaluate robustness | | | | | | Week2 - |  |