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| **SCHOOL OF COMPUTER SCIENCE AND ARTIFICIAL INTELLIGENCE** | | | | | **DEPARTMENT OF COMPUTER SCIENCE ENGINEERING** | | | | |
| **ProgramName:**M. Tech/MCA | | | | **Assignment Type: Lab** | | | **AcademicYear:**2025-2026 | | |
| **CourseCoordinatorName** | | | | Venkataramana Veeramsetty | | | | | |
| **CourseCode** | | |  | **CourseTitle** | | AI Assisted Problem Solving Using Python | | | |
| **Year/Sem** | | | I/I | **Regulation** | | R24 | | | |
| **Date and Day**  **of Assignment** | | | Week1 - Monday | **Time(s)** | |  | | | |
| **Duration** | | | 2 Hours | **Applicableto**  **Batches** | | M. Tech/MCA | | | |
| **AssignmentNumber:1.3**(Present assignment number)/**24**(Total number of assignments) | | | | | | | | | |
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|  | **Q.No.** | **Question** | | | | | | ***Expected Time***  ***to complete*** |  |
|  | 1 | Lab 1: Environment Setup – GitHub Copilot and VS Code Integration  **Lab Objectives:**   * To install and configure GitHub Copilot in Visual Studio Code. * To explore AI-assisted code generation using GitHub Copilot. * To analyze the accuracy and effectiveness of Copilot's code suggestions. * To understand prompt-based programming using comments and code context   **Lab Outcomes (LOs):**  After completing this lab, students will be able to:   * Set up GitHub Copilot in VS Code successfully. * Use inline comments and context to generate code with Copilot. * Evaluate AI-generated code for correctness and readability. * Compare code suggestions based on different prompts and programming styles.   **Task Description#1**   * Install and configure GitHub Copilot in VS Code. Take screenshots of each step.   **Expected Output#1**   * Install and configure GitHub Copilot in VS Code. Take screenshots of each step.   **Task Description#2**   * Use Copilot to generate a is\_prime() Python function**.**   **Expected Output#2**   * Function to check primality with correct logic.   Prompt: Write python function is\_prime() to check the given number is prime or not. Function should ask user for input  **C:\Users\madad\AppData\Local\Packages\MicrosoftWindows.Client.CBS_cw5n1h2txyewy\TempState\ScreenClip\{81D0B3B8-2B97-450A-91E6-07CD7242A81F}.png**  **C:\Users\madad\AppData\Local\Packages\MicrosoftWindows.Client.CBS_cw5n1h2txyewy\TempState\ScreenClip\{71C8BB56-2101-412A-AA2B-AA54EBD48EFE}.png**  **C:\Users\madad\AppData\Local\Packages\MicrosoftWindows.Client.CBS_cw5n1h2txyewy\TempState\ScreenClip\{27E11993-24BB-4120-9532-2AAB05659C8A}.png**  **Task Description#3**   * Write a comment like # Function to reverse a string and use Copilot to generate the function.   **Expected Output#3**   * Auto-completed reverse function   **Prompt:** Write python function is\_reverse() to check whether the string is reversed or not. Function should ask user for input  C:\Users\madad\AppData\Local\Packages\MicrosoftWindows.Client.CBS_cw5n1h2txyewy\TempState\ScreenClip\{104B569F-96F9-4792-9CFE-2FF8D6B6EE68}.png  **C:\Users\madad\AppData\Local\Packages\MicrosoftWindows.Client.CBS_cw5n1h2txyewy\TempState\ScreenClip\{1BBE29E1-6937-4584-8DA7-AB441C40685C}.png**  **Task Description#4**   * Generate both recursive and iterative versions of a factorial function using comments.   .  **Expected Output#4**   * Two working factorial implementations   **Prompt:** Write python function is\_recursive() Generate both recursive and iterative versions of a factorial function using comments, Function should ask user for input  .  **C:\Users\madad\AppData\Local\Packages\MicrosoftWindows.Client.CBS_cw5n1h2txyewy\TempState\ScreenClip\{53D9BC0C-C951-46E9-B80A-FC04AD578C6F}.png**  **C:\Users\madad\AppData\Local\Packages\MicrosoftWindows.Client.CBS_cw5n1h2txyewy\TempState\ScreenClip\{FC8EE1CE-705A-4517-A124-57739A8FA1A1}.png**  **C:\Users\madad\AppData\Local\Packages\MicrosoftWindows.Client.CBS_cw5n1h2txyewy\TempState\ScreenClip\{83C69489-1553-463C-9D37-2A48063A587C}.png**  **C:\Users\madad\AppData\Local\Packages\MicrosoftWindows.Client.CBS_cw5n1h2txyewy\TempState\ScreenClip\{6EBABA30-6310-4FA0-9698-B39F4602F65A}.png**  **Task Description#5**   * Use Copilot to find the largest number in a list. Assess code quality and efficiency.   **Expected Output#5**   * A valid function with your review   **Prompt:** writea python program to find a largest number in list , Function should ask user for input  C:\Users\madad\AppData\Local\Packages\MicrosoftWindows.Client.CBS_cw5n1h2txyewy\TempState\ScreenClip\{271A7B02-E655-428B-BCFD-4048061981C9}.png  **C:\Users\madad\AppData\Local\Packages\MicrosoftWindows.Client.CBS_cw5n1h2txyewy\TempState\ScreenClip\{3761BE42-9581-4CDB-9530-73BD9216BE17}.png**  **C:\Users\madad\AppData\Local\Packages\MicrosoftWindows.Client.CBS_cw5n1h2txyewy\TempState\ScreenClip\{3D7FA670-EA7C-4AF1-AA52-909BBDE8669A}.png**  **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** | | --- | --- | | Successful Setup of Copilot (Task #1) | 2 | | is\_prime() Python function (Task #2) | 2 | | Reverse a string function (Task #3) | 2 | | Factorial Function (Task #4) | 2 | | Find the largest number (Task #5) | 2 | | **Total** | **10 Marks** | | | | | | | Week1 - Wednesday |  |