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| animatedLOGO | **Assignment No. 01 (Graded) SPRING 2025 CS403 - Database Management System** | | **Total Marks: 20**  **Due Date: 02/05/2025** |
| ***Instructions:***  **Please read the following instructions carefully before solving & submitting the assignment solution:**  **It should be clear that your assignment will not get any credit (zero marks) if:**   * **The assignment is submitted after the due date.** * **The submitted assignment solution does NOT open or the file is corrupt.** * **The assignment is copied (from other students or ditto copy from handouts or the internet).** * **Please ensure that your assignment submission is in .doc or .docx format. Other formats such as scanned images, PDFs, .zip, .rar, .bmp, etc., will not be accepted.**   ***Objectives:***  The objectives of this assignment are:   * Comprehend fundamental database concepts, including entities, relationships, attributes, and keys. * Develop skills in creating Data Flow Diagrams (DFDs) to represent system processes, external entities, and data exchanges, enhancing understanding of system interactions. * Develop skills in creating Entity-Relationship Diagrams (ERDs) to visually represent data structures and relationships in a database system.   **For any query about the assignment, contact at** [**cs403@vu.edu.pk**](mailto:cs403@vu.edu.pk)  **GOOD LUCK** | | | |
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| **Scenario**  At Virtual University of Pakistan (VUP), students start their academic journeys by enrolling in various courses each semester. The university offers a range of courses across multiple departments, including Computer Science, Business, and Basic Sciences. Each course is taught by a qualified instructor responsible for delivering lessons and evaluating student performance.  Students, identified by unique StudentIDs, can select courses based on their major and interests. They must register for courses during the designated registration period, which requires them to meet prerequisites and availability. Each enrollment is tracked in the system, capturing essential details like grades and attendance.  Instructors, assigned unique InstructorIDs, oversee the courses they teach, managing class schedules and grading assignments.  The university's database maintains comprehensive records of students, courses, instructors, and enrollments, ensuring that academic progress is monitored and facilitating communication between students and faculty.  As the semester progresses, students can view their grades and receive feedback from instructors, helping them make informed decisions about their academic paths. This streamlined system enhances the educational experience, making it easy for students to navigate their course selections and stay on track for graduation.  **Question No. 01:**   * Draw a **Context Level** Data Flow Diagram (DFD) for the above scenario.   **Question No. 02:**   * Draw a complete **Entity Relationship Diagram (ERD)** of the system, specifying the cardinality (one-to-many, many-to-many, etc.).   **Guidelines:**   * **Standard UML Notations:** Utilize standard UML symbols for entities, attributes, relationships, and cardinalities as outlined in the handouts. * **Naming Conventions:** Follow proper naming conventions for entities, attributes, and relationships as specified in the handouts. * **Diagram Submission:** If you are using a drawing tool (such as MS Paint or MS Visio), be sure to copy and paste your class diagram into your final MS Word (.doc) file. |
| **Lectures Covered:** This assignment covers lectures **1 - 9**.  **Deadline:** Your assignment must be uploaded/submitted on or before the due date **2nd May, 2025**. |