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| animatedLOGO | **Assignment No. 2 Semester: Spring 2021**  **CS201 – Introduction to Programming** | | **Total Marks: 20**  **Due Date:**  **8th June 2021** |
| **Instructions**  **Please read the following instructions carefully before submitting assignment:**  **It should be clear that your assignment will not get any credit if:**   * ***Assignment is submitted after due date.*** * ***Submitted assignment does not open or file is corrupt.*** * ***Assignment is copied (From internet/students).***   **Software allowed to develop Assignment**   * **Dev C++**   ***Objectives:***  *In this assignment, the students will learn:*   * *How to fill a two-dimensional array using given data.* * *How to write user defined functions and pass an array to them as parameter.* * *How to use if statement and while loop.* * *How to display array elements.*   **Assignment Submission Instructions**  You are required to submit only **.cpp** file on the assignments interface of CS201 at VU-LMS. ***Assignment submitted in any other format will not be accepted and will be graded zero marks.*** *So, check your solution file format before submission.*  For any query related to assignment, please contact [cs201@vu.edu.pk](mailto:cs201@vu.edu.pk).    **Lectures: 7 to 15** | | | |
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| **Problem Statement**  A matrix is given in source data. You have to write user defined functions and create a menu in C++ keeping in mind the following requirements:   * 1. Press 1 to display the matrix and its transpose.   (Hint: Transpose of a matrix can be achieved by changing its rows into columns or columns into rows.)   * 1. Press 2 to find adjoint and determinant of the matrix.   (Hint: To find adjoint of a matrix, we change the places of its diagonal elements and the signs of non-diagonal elements; To find determinant of matrix, we subtract the product of non-diagonal elements from the product of diagonal elements.)   * 1. Press any other key to exit.   **Source data:**  (Use two dimensional array to store following matrix)  **Instructions to write C++ program:**   * Write functions to display the matrix; find transpose, adjoint and determinant of the matrix. Following function names should be used for consistency.  |  |  | | --- | --- | | To display matrix | showMatrix( ); | | To show transpose | showTranspose ( ); | | To show adjoint | showAdjoint(); | | To find determinant | calculateDeterminant(); |   Sample Output:   1. When 1 is pressed      1. When 2 is pressed      1. When any other key is pressed     ***Wish you Good Luck!*** |
| ***Lectures Covered:*** *This assignment covers Lecture # 07-15.*  ***Deadline:*** *The deadline to submit your assignment solution is* ***8th June 2021****. Your assignment must be submitted within the due date through VU-LMS. No assignment will be accepted through email after the due date.* |