National University of Computer and Emerging Sciences, Lahore Campus

	Course:	Object Oriented Programming	Course Code:	
	Program:	BS(Computer Science)	Semester:	Spring 2019
	Topic:	Pointers, classes, operator overloading	Total Marks:	10
	Due Date:	18th October,2019	Weight	%
	Section:	A & B	Page(s):	1
	Exam:	Assignment 3	Reg. No	

Submission Folder:
On slate

Submission Instructions:

- Submit your running files carefully. After deadline no updated files will be accepted.

Matrix

Design a class that can represent matrices of any order and support following operations

- transpose
- computing the power of a Matrix (if A is a matrix and p is any positive number. Then you have to compute A^p).
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you have to overload the following operators for matrices

- + (addition)
- - (subtraction)
- * multiplication (scalar and matrix multiplication)
- = = equals
- = assignment
- ++ pre and post increment [add 1 to all elements of matrix]
- -- pre and post decrement [subtract 1 from all elements of matrix]
- +=
- -=
- *=
- /=
- new
- New []
- delete
- Delete []
- () [with 2 parameters i and j. it will return the value at i^{th} row and j^{th} column]
- Stream insertion and extraction operators
- Make appropriate member functions (including constructors).

Note:

One of the data members will be ***2D dynamic array*** of ***n*** rows and ***m*** columns (n and m should be taken from user).