**LINEAR ALGEBRA**

Experiment No. # 8

**Inverse and Transposition of Matrix**

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Score

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| **CRITERIA** | **Exceeds Expectations** | **Meets Expectations** | **Needs Improvement** | **Unsatisfactory** |
| Functionality  (60 points) |  |  |  |  |
| Completeness  (20 points) |  |  |  |  |
| Structure  (20 points) |  |  |  |  |

**Remarks:**

*Submitted by:*

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**<Monday 7:00-10:00> / <58013>**

*Submitted to*

**<Ms. Maria Rizette Sayo>**

<Facilitator>

*Date Performed:*

**14-10-2023**

*Date Submitted*

**15-10-2023**

**Objective**

1. Be familiar with matrices and their relation to linear equations.
2. Perform basic matrix operations.
3. Program and translate matrix in inverse and its transposition using Python.

**Algorithm**

1. Type the main title of this activity as "Inverse and Matrix Transposition”
2. On your GitHub, create a repository name Linear Algebra 58013
3. On your Colab, name your activity as Python Exercise 8.ipynb and save a copy to your GitHub repository

**Coding Activity 8**

*Inverse*

Inverse of a matrix is a reciprocal of the matrix

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| ##Python codes to declare a matrix  import numpy as np  A = np.array ([[1,2,3],[4,5,6],[7,8,9]])  print(A)  A=np.array([[1,2],[4,7]])  B=(np.linalg.inv(A))  print(B) |

Or you can code in this way:

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| import numpy as np  A = np.array([[1,2],[4,7]])  invA = (np.linalg.inv(A))  print(invA) |

*Transpose of a Matrix*

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| #Python Program to Transpose a 4x4 Matrix A=([[6,1,1,3],[4,-2,5,1],[2,8,7,6],[3,1,9,7]])  A=np.array([[6,1,1,3],[4,-2,5,1],[2,8,7,6],[3,1,9,7]])  print(A)  B=(np.transpose(A))  print(B) |