

4th Assignment(Matrix Calculator)

Given two integer matrixes, A and B , try to answer each question by implementing each function:

1. Assign the values for each matrix by randomly assign each element $[[0, 100]]$ in the matrix;
2. Print all elements in the matrix;
3. Construct the matrix operation: aA , where is a an integer constant;
4. Construct the transpose of the matrix: A' ;
5. Construct the rotation operation of the matrix by its center:
6. Identify the minimum element in the matrix;
7. Calculate the average value of a given row or a given column;
8. Construct the matrix operation: $A + B$;
9. Construct the matrix operation: $A \times B$;
10. Validate whether the following equations are true or false:
 - a) $(A')' = A$;
 - b) $(A + B) + C = A + (B + C)$;
 - c) $A \times B = B \times A$;
 - d) $(A + B)' = A' + B'$;
 - e) $(A \times B)' = B' \times A'$;
 - f) $(aA)' = aA'$