

QUIZ:

Add a new feature to the program written in lab experiment:

Write required functions to calculate the Transpose, Row Module and Column Module of the given Matrix. Use given function prototypes, sample output and calculation formulas. Also you need to write a test code similar to prelab activity.

```
void Matrix_Transpose(const Matrix& matrix, Matrix& result);
void Matrix_Row_Module(const Matrix& matrix, Matrix& result);
void Matrix_Column_Module(const Matrix& matrix, Matrix& result);
```

Sample Ouput:

```
+-----+
| TRANSPOSE TEST |
+-----+
MATRIX: 2 x 3
      9      -1      10
      2      -3       6
Result Matrix:
MATRIX: 3 x 2
      9      2
     -1     -3
     10      6
```

```
+-----+
| ROW MODULE TEST |
+-----+
MATRIX: 2 x 3
      6      0      2
     -10     -3     -3
Result Matrix:
MATRIX: 2 x 1
      6.32456
     10.8628
```

```
+-----+
| COLUMN MODULE TEST |
+-----+
MATRIX: 2 x 3
     -5      9      7
     -3     -7      8
Result Matrix:
MATRIX: 3 x 1
      5.83095
     11.4018
     10.6301
```

Problem-Solving Tips

1. Call `Matrix_Allocate` function for the given result `Matrix` and for required sizes and performs matrix transpose operation for the given matrix by saving the result into the `Matrix` named result.
2. Call `Matrix_Allocate` function for the given result `Matrix` and for required sizes and performs matrix row module operation for the given matrix by saving the result into the `Matrix` named result.
3. Call `Matrix_Allocate` function for the given result `Matrix` and for required sizes and performs matrix column module operation for the given matrix by saving the result into the `Matrix` named result.