Matrix Programs — Inputs & Outputs

This README contains only **inputs and outputs** for each task based on the provided C++ programs.

Task 1A: Transpose of a Rectangular Matrix

Input Example:

1. Enter rows: `2`
2. Enter columns: `3`
3. Enter matrix elements:
4. 1 2 3
5. 4 5 6

Output Example:

1. Transposed matrix:
2. 1 4
3. 2 5
4. 3 6

Task 1B: In-Place Transpose of a Square Matrix

Input Example:

1. Enter rows: `3`
2. Enter columns: `3`
3. Enter matrix elements:
4. 1 2 3
5. 4 5 6
6. 7 8 9

Output Example:

1. Transposed matrix:
2. 1 4 7
3. 2 5 8
4. 3 6 9

Task 2: Check Whether a Matrix is Symmetric

Input Example:

1. Enter matrix size: `3`
2. Enter matrix elements:

3. 1 2 3
4. 2 5 6
5. 3 6 9

Output Example:

1. The matrix is symmetric

Task 3: Check Whether a Matrix is Skew-Symmetric

Input Example:

1. Enter matrix size: `3`
2. Enter matrix elements:
3. 0 2 -3
4. -2 0 4
5. 3 -4 0

Output Example:

1. The matrix is skew-symmetric

Task 4: Matrix Addition & Subtraction

Input Example:

1. Matrix dimensions: `2 x 3`
2. Matrix A:
3. 1 2 3
4. 4 5 6
5. Matrix B:
6. 7 8 9
7. 0 1 2

Output Example:

1. Addition:
2. 8 10 12
3. 4 6 8
4. Subtraction:
5. -6 -6 -6
6. 4 4 4

Task 4B: Matrix Multiplication (Part of Task 4)

Input Example:

1. Matrix 1 size: `2 x 3`
2. Matrix 2 size: `3 x 2`

3. Matrix A:
4. 1 2 3
5. 4 5 6
6. Matrix B:
7. 7 8
8. 9 10
9. 11 12

Output Example:

1. Product matrix:
2. 58 64
3. 139 154
