Assignment of Subjective questions

1. Write a C program to read elements in a matrix and check whether the matrix is a lower triangular matrix or not.

Sample Output

Enter elements in matrix of size 3x3:

1

0

0

4

5

0

7

8

9

Matrix is Lower triangular matrix:

1 0 0

4 5 0

7 8 9

2. Write a C program to read elements in a matrix and find sum of upper triangular matrix.

Sample Output

Enter elements in matrix of size 3x3:

1

2

3

0

5

6

0

0

9

Sum of upper triangular matrix = 11

3. Write a C program to read elements in a matrix and find sum of lower triangular matrix.

Sample Output

Enter elements in matrix of size 3x3:

1

0

0

4

5

0

7

8

9

Sum of lower triangular matrix = 19

4. Write a C program to read elements in a matrix and find transpose of the given matrix.

Sample Output

Enter elements in matrix of size 3x3:

1

2

3

4

5

6

7

8

9

Original matrix:

1 2 3

4 5 6

7 8 9

Transpose of matrix A:

1 4 7

2 5 8

3 6 9

5. Write a C program to read elements in a matrix and find determinant of the given matrix.

Sample Output

Enter elements in matrix of size 2x2:

1

2

3

4

Determinant of matrix A = -2

6. Write a C program to read elements in a matrix and find determinant of the given matrix.

Sample Output

Enter elements in matrix of size 3x3:

6

1

1

4

-2

5

2

8

7

Determinant of matrix A = -306

7. Write a C program to read elements in a matrix and check whether matrix is an Identity matrix or not.

Sample Output

Enter elements in matrix of size 3x3:

1

0

0

0

1

0

0

0

1

The given matrix is an Identity Matrix.

1 0 0

0 1 0

0 0 1

8. Write a C program to read elements in a matrix and check whether matrix is Sparse matrix or not.

Sample Output

Enter elements in matrix of size 3x3:

1

0

3

0

0

4

6

0

0

The given matrix is a Sparse matrix.

9. Write a C program to read elements in a matrix and check whether the given matrix is symmetric matrix or not.

Sample Output

Enter elements in matrix of size 3x3:

1

2

3

2

4

5

3

5

8

The given matrix is Symmetric matrix:

1 2 3

2 4 5

3 5 8