Assignment of Subjective questions

1. Write a C program to read elements in two matrices and add elements of both matrices.

Sample Output

Enter elements in matrix A of size 3x3:

1

2

3

4

5

6

7

8

9

Enter elements in matrix B of size 3x3:

9

8

7

6

5

4

3

2

1

Sum of matrices A+B =

10 10 10

10 10 10

10 10 10

2. Write a C program to read elements in two matrices and find the difference of two matrices.

Sample Output

Enter elements in matrix A of size 3x3:

1

2

3

4

5

6

7

8

9

Enter elements in matrix B of size 3x3:

9

8

7

6

5

4

3

2

1

Difference of two matrices A-B =

-8 -6 -4

-2 0 2

4 6 8

3. Write a C program to read elements in a matrix and perform scalar multiplication of matrix.

Sample Output

Enter elements in matrix of size 3x3:

1

2

3

4

5

6

7

8

9

Enter any number to multiply with matrix A: 2

Resultant matrix c.A =

2 4 6

8 10 12

14 16 18

4. Write a C program to read elements in two matrices and multiply them.

Sample Output

Enter elements in matrix A of size 3x3:

1

2

3

4

5

6

7

8

9

Enter elements in matrix B of size 3x3:

9

8

7

6

5

4

3

2

1

Product of matrix A \* B =

30 24 18

84 69 54

138 114 90

5. Write a C program to enter elements in two matrices and check whether both matrices are equal or not.

Sample Output-1

Enter elements in matrix A of size 3x3:

1

2

3

4

5

6

7

8

9

Enter elements in matrix B of size 6356720x3:

9

8

7

6

5

4

3

2

1

Matrix A is not equal to Matrix B

Sample Output-2

Enter elements in matrix A of size 3x3:

1

2

3

4

5

6

7

8

9

Enter elements in matrix B of size 6356720x3:

1

2

3

4

5

6

7

8

9

Matrix A is equal to Matrix B

6. Write a C program to read elements in a matrix and find the sum of main diagonal (major diagonal) elements of matrix.

Sample Output

Enter elements in matrix of size 3x3:

1

2

3

4

5

6

7

8

9

Sum of main diagonal elements = 15

7. Write a C program to read elements in a matrix and find the sum of minor diagonal (opposite diagonal) elements.

Sample Output

Enter elements in matrix of size 3x3:

1

2

3

4

5

6

7

8

9

Sum of minor diagonal elements = 15

8. Write a C program to read elements in a matrix and find the sum of elements of each row and columns of matrix.

Sample Output

Enter elements in matrix of size 3x3:

1

2

3

4

5

6

7

8

9

Sum of elements of Row 1 = 6

Sum of elements of Row 2 = 15

Sum of elements of Row 3 = 24

Sum of elements of Column 1 = 12

Sum of elements of Column 2 = 15

Sum of elements of Column 3 = 18

9. Write a C program to read elements in a matrix and interchange elements of primary(major) diagonal with secondary(minor) diagonal.

Sample Output

Enter elements in matrix of size 3x3:

1

2

3

4

5

6

7

8

9

Matrix after diagonals interchanged:

3 2 1

4 5 6

9 8 7

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

Sample Output

Enter elements in matrix of size 3x3:

1

2

3

0

5

6

0

0

9

The matrix is Upper triangular matrix.

1 2 3

0 5 6

0 0 9