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- Program name
- output

note: I am not responsible for any mistakes in this document

1. Addition, Subtraction of Matrices

OUTPUT:

```
Enter the size of the matrices (m x n):
3 3
Enter Matrix A of order 3X3:
1 -3 2
2 1 -3
4 -1 3
Enter Matrix B of order 3X3:
2 -2 -4
-1 3 4
1 -2 3
A + B =
3      -5      -2
1      4       1
5      -3      6
A - B =
-1     -1      6
3      -2     -7
3      1      0
-
```

2. Multiplication of Matrices

OUTPUT:

```
Enter size of matrix A
3 3
Enter size of matrix B
3 3
Enter Matrix A of order 3X3
3 -3 4
2 -3 4
0 -1 1
Enter Matrix B of order 3X3
3 1 2
2 0 5
1 2 0
The Product matrix AB is
7      11      -9
4      10     -11
-1      2      -5
```

3.Determinant of a Matrix and Inverse of a Matrix

OUTPUT:

```
Enter a 3X3 matrix:
1 2 -2
-1 3 0
0 -2 1
Determinant of given matrix=1.000000
Inverse of matrix is:

3.00    2.00    6.00
1.00    1.00    2.00
2.00    2.00    5.00
-
```

4. Singular and Non-Singular Matrices

OUTPUT:

```
Enter a 3X3 matrix:
1 2 1
3 2 2
1 1 2
Determinant of given matrix=-5
Given Matrix is Non-Singular_
```

5. Matrix Inversion Method

OUTPUT:

```
Enter coefficient matrix:
3 1 2
2 -3 -1
1 2 1
Enter constant matrix:
3
-3
4

The values of x, y, z are:
1.00
2.00
-1.00
```

6. Cramer's Rule

OUTPUT:

```
Enter coefficients of variables:
1 2 -1
3 1 1
1 -1 2
Enter constants:
-3
4
6

Solution of the given system of linear equations is:
x = 1.00,      y = -1.00,      z = 2.00
```

7. Rank of a Matrix.

OUTPUT:

```
Enter a 3x3 matrix:
-1 0 6
3 4 1
-5 1 3

Rank of the matrix is: 3
-
```

9.Problem on Mean and Median

OUTPUT:

```
How many values:
6
Enter 6 values:
26
8
12
15
32
6

Mean=16.50
Median=13.50_
```

10. Empirical relationship between mean, median and mode

OUTPUT:

```
Enter your choice
1. Mean
2. Median
3. Mode
3
Enter Mean and Median:
22.5
20
Mode = 15.000000
-
```