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```
#include <stdio.h>

int main()
{
    int m,n;          //Row Column Declaration
    printf("Enter the number of rows and column\n");
    scanf("%d %d",&m,&n);    //Row Column Initialization
    int arr[m][n];    //Matrix Declaration
    printf("Enter the elements of the matrix\n");
    for(int i=0;i<m;i++)    //Matrix Initialization
    {
        for(int j=0;j<n;j++)
        {
            scanf("%d",&arr[i][j]);
        }
    }
    printf("\nElements in the matrix are \n");
    for(int i=0;i<m;i++)    //Print Matrix
    {
        for(int j=0;j<n;j++)
        {
            printf("%d ",arr[i][j]);
        }
        printf("\n");
    }
}
```

Enter the number of rows and column 3 3

Enter the elements of the matrix 1 2 3 4 5 6 7 8 9

Elements in the matrix are

1 2 3

4 5 6

7 8 9

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Row Sum....

Sum of all the elements in row 0 is 6

Sum of all the elements in row 1 is 15

Sum of all the elements in row 2 is 24

Column Sum....

Sum of all the elements in column 0 is 12

Sum of all the elements in column 1 is 15

Sum of all the elements in column 2 is 18

Program 2: Calculate the sum of each Row and Column

In this method, an M*N matrix is declared and the sum of each row and column is calculated by calling a function and the result is then displayed.

Algorithm

1. Start
2. Declare a 2-D array i.e., an M*N matrix.
3. Initialize the array using two for loops.
4. Declare two variables that will store the row and column sum.
5. Now to calculate the row sum call a function.

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6. Keep the first index of the matrix constant and increment the second index to access each element of the row.
7. Keep on adding these elements and display the result after coming out of the inner loop.
8. Now to calculate the column sum call another function.
9. This time increment the first index of the matrix and keep the second index of the matrix constant to access each element of the column.
10. Keep on adding these elements and display the result after coming out of the nested loop.
11. Stop.

In this program, two functions are called to calculate the sum of each row and each column.

```
#include<stdio.h>

void rowSum(int arr[10][10], int m, int n);
void columnSum(int arr[10][10], int m, int n);

int main()
{
    int a[10][10], m,n;                                //Matrix and its size Declarati

    printf("\n Please Enter Number of rows and columns  : ");
    scanf("%d %d", &m, &n);                            //Initialize matrix size

    printf("\n Please Enter the Matrix Elements \n");
    for(int i = 0; i < m; i++)                          //Initialize the matrix
    {
        for(int j= 0; j < n; j++)
        {
            scanf("%d", &a[i][j]);
        }
    }
    printf("Matrix Elements are...");
    for(int i = 0; i < m; i++)                          //Print the matrix
    {
        for(int i= 0; i < n; i++)
```



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Please Enter Number of rows and columns : 3 3

Please Enter the Matrix Elements : 1 2 3 4 5 6 7 8 9

Matrix Elements are...

1 2 3

4 5 6

7 8 9

Row Sum...

The Sum of Elements of row 1 is 6

The Sum of Elements of row 2 is 15

The Sum of Elements of row 3 is 24

Column Sum...

The Sum of Elements of Column 1 is 12

The Sum of Elements of Column 2 is 15

The Sum of Elements of Column 3 is 18

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