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Input

```
2 3
9 8 12
16 5 20
```

Output

```
Enter the number of rows and columns of matrix
2   3
Enter the elements of matrix
9   8   12
16  5   20
The sum of 1 row is 29
The sum of 2 row is 41
```

Input

```
2 3
9 8 12
16 5 20
```

Output

```
16  5   20
The sum of 1 row is 29
The sum of 2 row is 41
The sum of 1 column is 25
The sum of 2 column is 13
The sum of 3 column is 32
```

Addition of rows and columns of matrix

Program -

```
# include <stdio.h>
int main()
{
    int a[20][20], i, j, m, n, rsum[20], csum[20];
    printf("Enter the number of rows and
                columns of matrix \n");
    scanf("%d %d", &m, &n);
    printf("Enter the elements of matrix \n");
    for(i=0; i<m; i++)
    {
        for(j=0; j<n; j++)
        {
            scanf("%d", &a[i][j]);
        }
        printf("\n");
    }
    for(i=0; i<m; i++)
    {
        rsum[i] = 0;
        for(j=0; j<n; j++)
        {
            rsum[i] = rsum[i] + a[i][j];
        }
        printf("The sum of %d row is: %d", i+1, rsum[i]);
        printf("\n");
    }
    for(i=0; i<n; i++)
    {
        csum[i] = 0;
        for(j=0; j<m; j++)
        {
            csum[i] = csum[i] + a[j][i];
        }
```

```
    printf("The sum of %d column is %d", i+1, csum[i]);
      printf("\n");
    }
    return(0);
}
```

Algorithm

step1 - Start

step2 - Input m, n

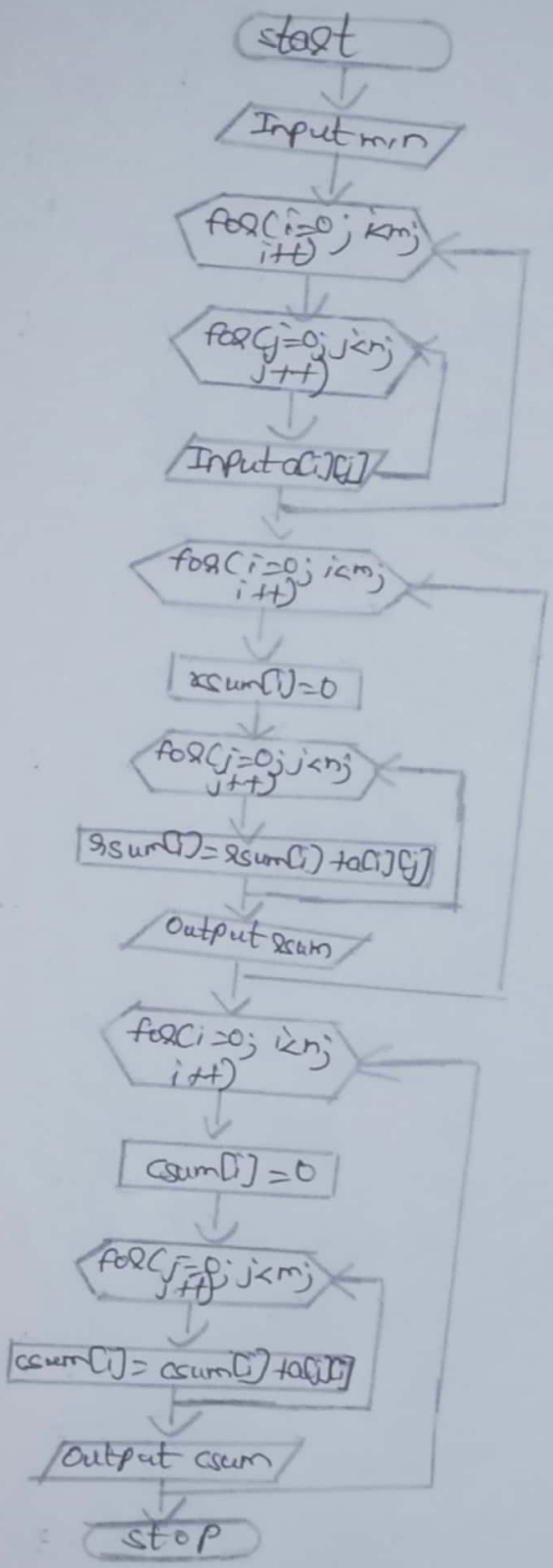
step3 - Repeat for(i=0; i<m; i++)
Repeat for(j=0; j<n; j++)
Input a[i][j]
[End for]
[End for]

step4 - Repeat for (i=0; i<m; i++)
&sum[i]=0
Repeat for (j=0; j<n; j++)
&sum[i] = &sum[i] + a[i][j]
[End for]
Output &sum[i]
[End for]

step5 - Repeat for (i=0; i<n; i++)
csum[i]=0
Repeat for(j=0; j<m; j++)
csum[i] = csum[i] + a[j][i]
[End for]
Output csum[i]
[End for]

step6 - stop

Flowchart



Output

Enter the number of rows and columns of matrix

2 3

Enter the elements of matrix

9 8 12

16 5 20

The sum of 1 row is 29

The sum of 2 row is 41.

The sum of 1 column is 25

The sum of 2 column is 13

The sum of 3 column is 32