C program to find sum of each row and columns of a matrix

July 28, 2015 Pankaj C programming Array, C, Matrix, Program

Write a C program to read elements in a matrix and find the sum of elements of each row and columns of matrix. C program to calculate sum of rows and columns of matrix. Logic to find sum of each row and columns of a matrix in C programming.

Example

Input

```
Input elements in array:
1 2 3
4 5 6
7 8 9
```

Output

```
Sum of row 1 = 6
Sum of row 2 = 15
...
...
Sum of column 3 = 18
```

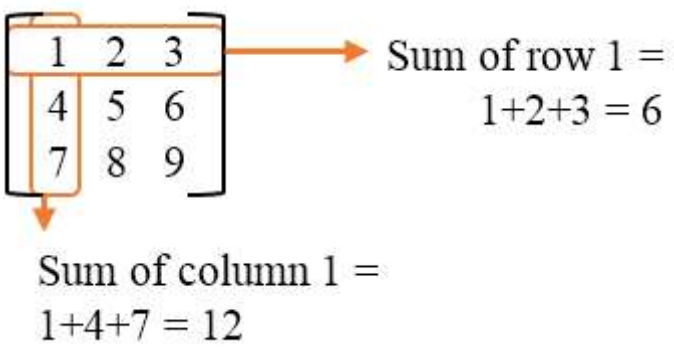
Required knowledge

Basic C programming, For loop, Array

Must know -

- *Program to find sum of main diagonal elements.*
- *Program to find sum of opposite diagonal elements.*

Sum of rows and columns of a matrix is defined as -



Program to find sum of rows and columns of matrix

```c
/**
 * C program to find sum of elements of rows and columns of matrix
 */

#include <stdio.h>

#define SIZE 3 // Matrix size

int main()
{
    int A[SIZE][SIZE];
    int row, col, sum = 0;

    /* Input elements in matrix from user */
    printf("Enter elements in matrix of size %dx%d: \n", SIZE, SIZE);
    for(row=0; row<SIZE; row++)
    {
        for(col=0; col<SIZE; col++)
        {
            scanf("%d", &A[row][col]);
        }
    }

    /* Calculate sum of elements of each row of matrix */
    for(row=0; row<SIZE; row++)
    {
        sum = 0;
        for(col=0; col<SIZE; col++)
        {
            sum += A[row][col];
        }

        printf("Sum of elements of Row %d = %d\n", row+1, sum);
    }

    /* Find sum of elements of each columns of matrix */
    for(row=0; row<SIZE; row++)
    {
        sum = 0;
        for(col=0; col<SIZE; col++)
        {
            sum += A[col][row];
        }

        printf("Sum of elements of Column %d = %d\n", row+1, sum);
    }

    return 0;
}
```

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
```

Happy coding ;)

Recommended posts

- Array and Matrix programming exercises index.
- C program to find sum of upper triangular matrix.
- C program to find transpose of a matrix.
- C program to find determinant of a matrix.
- C program to check whether two matrices are equal or not.
- C program to check Identity matrix.

About Pankaj

Pankaj Prakash is the founder, editor and blogger at Codeforwin. He loves to learn new techs and write programming articles especially for beginners. He works at Vasudhaika Software Sols. as a Software Design Engineer and manages Codeforwin. In short Pankaj is Web developer, Blogger, Learner, Tech and Music lover.

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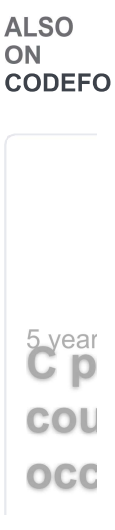
*Have a **doubt**, write here. I will **help my best**.*

Before commenting you must escape your source code before commenting. Paste your source code inside <pre><code> ----Your Source Code---- </code></pre>



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Md Adnan Kabir • 6 days ago

//for any kind of matrix.....

```
#include <stdio.h>

int main()
{
int row, col, sum;
printf("\nEnter the row and column of matrix A: "); scanf("%d%d", &row, &col);

int A[row][col];

printf("\nEnter the element of that matrix: \n");
for (int i = 0; i < row; i++)
{
for (int j = 0; j < col; j++) scanf("%d", &A[i][j]);
```

```
}

for (int i = 0; i < row; i++)
{
sum = 0;
```

see more

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Kushal Vardhan • 2 years ago • edited

This Only works for a square matrix

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Ranjeet Kumar Suman • 4 years ago

where i am wrong ,i dont know
output is wrong.please help me.

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Ranjeet Kumar Suman • 4 years ago • edited

```c
#include <stdio.h>

int main()
{
        int i,j,a[3][3],sum;
        printf("enter the element of first matrix\n");
        for(i=0;i<3;i++)
        {
                for(j=0;j<3;j++)
                {
                        scanf("%d",&a[i][j]);
                }
        }

        printf("the first matrix is\n\n");
        for(i=0;i<3;i++)
        {
                for(j=0;j<3;j++)
                {
                        printf("%d\t",a[i][j]);
                }
                printf("\n");
        }

        for(i=0;i<3;i++)
        {
                  sum=0;
                for(j=0;j<3;j++)
                {

                        sum=sum+a[i][j];
```

see more

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Pankaj Prakash Admin ➦ Ranjeet Kumar Suman • 4 years ago

Hey **@Ranjeet Kumar Suman**, thanks for writing. Let me guess if you are sum of all elements in matrix then move `sum = 0;` statement outside of for lo are trying to find sum of each columns then move the `printf("%d\n", sum);` just after inner for loop `for(j=0; j<3;j++)`.

That will do the trick, happy coding ;)

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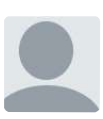

SHRADHA BHUTE • 5 years ago • edited

input array
1 2 3
4 5 6
7 8 9
output
7 8 9
4 5 6
1 2 3
how to do this question bcoz when i m doing this question in java i got wrong answ

```java
public class matrix2 {
public static void main(String[] args) {
Scanner kb=new Scanner(System.in );
int row,col;
System.out.println("enter the row and col size");
row=kb.nextInt();
col=kb.nextInt();
int arr[][]=new int[row][col];
int brr[][]=new int[row][col];
System.out.println("enter the array elements");

for(int i=0;i<row;i++)
{
        for(int j=0;j<col;j++)
```

see more

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Pankaj Prakash Admin ➦ SHRADHA BHUTE • 5 years ago

Hey **@SHRADHA BHUTE**, instead of having such deeply nested loop. You below approach to copy `arr` to `brr`.

```
int rows = arr.length;
for (int i=0; i<rows; i++) {
    for (int j=0; j<arr[i].length; j++) {
        brr[rows - i - 1][j] = arr[i][j];
    }
}
```

I believe that should work as per your conditions.

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Vitor Perfeito • 5 years ago

Hello! I am a beeginner and I can't follow this:
To calculate the sum of the rows the program does something like this(for a matriz
1º for cicle:
(0,1,2) and then in 2º for clicle (0,1,2) I guess...
then when you sum, there will be something like this A[0][0]+A[0][1]+A[0][2]+A[1][0
and so on. - this is not the sum of the collums but rather the sum of all elements

What is wrong with my way of thinking?
Thank you

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Pankaj Prakash Admin ➚ Vitor Perfeito • 5 years ago

Hey **@Vitor Perfeito**, sorry but I didn't get what you meant by **1º** and **2º.** Ca
please explain that?

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Vitor Perfeito ➚ Pankaj Prakash • 5 years ago • edited

Sorry, let me refrase it (i am portuguese).
I cant unserstand the logic of the programe:
I am talking about the code after "/* Calculate sum of elements of ea
matriz*/
Exemple: 3x3 matriz
in the first for cicle the program colects the numbers{0,1,2}.
in the second for cicle the program colects the numbers{0,1,2}.
when you write sum+=A[row][col] the program does something like t
A[0][0]+A[0][1]+A[0][2]+A[1][0]+A[1][1]...and so on.
this is not the sum of each rows but rather the sum of all elements o
Whats wrong about my raciocine/way of interpreting your code?
thank you

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Pankaj Prakash Admin ➚ Vitor Perfeito • 5 years ago

Hello **@Vitor Perfeito**, lets take

```
/* Calculate sum of elements of each row of matrix */
for(row=0; row<SIZE; row++)
{
    sum = 0;
    for(col=0; col<SIZE; col++)
    {
        sum += A[row][col];
    }

    printf("Sum of elements of Row %d = %d\n", row+1, sum
}
```

The above snippet calculates sum of elements of each row c
Please note the assignment `sum = 0`.

First the code assigns `sum = 0` then calculates sum of elemer
using inner loop. Prints sum and moves to next row using `rov`
this it again initializes `sum = 0` which makes sure that previous
carried. Hence, we are not calculating sum of all elements.

Please take a serious note on `sum = 0`. If required please do a

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emilia • 4 years ago • edited

```
#include <iostream>
#include <iomanip>

using namespace std;

int main()
{

    int m, n;
    int arr[100][100];
    int maxim=0;
    int suma=0;
    float med=0;


    cout<<"Rows: ";
    cin>>m;
    cout<<"Columns: ";
    cin>>n;
    for(int i=0; i<m; i++)
    {
        for (int j=0; j<n; j++)
        {
            cout<<"["<<i<<"]["<<j<<"]: "<<" ";
```

```
            cin>>arr[i][j];

        }
        for(int i=0; i<m; i++)
        {
            for(int j=0; j<n; j++)
            {
```

see more

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