

Find the time complexity of sum of two matrices

What is the time complexity of the program for the sum of two matrices?

Step count method

```
void sum()
{
int n, a[n][n], b[n][n], c[n][n], i, j; //--0
for(i=0; i<n; i++) //--n+1
{
    for(j=0; j<n; j++) //--n+1
    {
        c[i][j] = a[i][j] + b[i][j]; //--n
    }
}
}
```

$$f(n) = 0 + (n+1) * (n+1+n)$$

$$f(n) = (n+1)*(2n+1)$$

$$f(n) = 2n^2 + 3n + 1$$

$$f(n) = O(n^2)$$