

LAB ASSIGNMENT-1

① Write a program to read a 2D matrix and find the sum of each row & columns.

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(A) #include <iostream>
using namespace std;
int main() {
    int n, m;
    cout << "Enter the no of rows & columns" << endl;
    cin >> n >> m;
    int arr[n][m];
    cout << "Enter elements into matrix" << endl;
    for (int i = 0; i < n; i++)
        for (int j = 0; j < m; j++)
            cin >> arr[i][j];

    cout << "The sum of each row is : ";
    for (int i = 0; i < n; i++) {
        int sum = 0;
        for (int j = 0; j < m; j++)
            sum += arr[i][j];
        cout << sum << " ";
    }
    cout << endl;

    cout << "The sum of each column is : ";
    for (int i = 0; i < m; i++) {
        int sum = 0;
        for (int j = 0; j < n; j++)
            sum += arr[j][i];
        cout << sum << " ";
    }
    cout << endl;
    return 0;
}
```

```

② #include <iostream>
using namespace std;
int row_sum(int arr[], int n) {
    int sum = 0;
    for (int i = 0; i < n; i++)
        sum += arr[i];
    return sum;
}

int main() {
    int n, m;
    cout << "Enter no of rows & columns " << endl;
    cin >> n >> m;
    int arr[n][m];
    cout << "Enter the matrix " << endl;
    for (int i = 0; i < n; i++)
        for (int j = 0; j < m; j++)
            cin >> arr[i][j];

    cout << "The sum of each row is : ";
    for (int i = 0; i < n; i++)
        cout << row_sum(arr[i], m) << " ";
    cout << endl;

    cout << "The sum of each column is ";
    for (int i = 0; i < m; i++) {
        int temp[n];
        for (int j = 0; j < n; j++)
            temp[j] = arr[j][i];
        cout << row_sum(temp, n) << " ";
    }
    cout << endl;
    return 0;
}

```

```

③ #include <iostream>
using namespace std;
int main() {
    int n, m;
    cout << "Enter the no of rows & columns" << endl;
    cin >> n >> m;
    int arr[n][m];
    cout << "Enter elements in matrix" << endl;
    for (int i = 0; i < n; i++)
        for (int j = 0; j < m; j++)
            cin >> arr[i][j];

    int col;
    cout << "Enter the column number" << endl;
    cin >> col;
    int count = 0;
    for (int i = 0; i < n; i++) {
        if (arr[i][col] == 0)
            count++;
    }
    cout << "The no of zeroes in column " << col << " is "
        << count << endl;
    return 0;
}

```