**Code:**

#include <bits/stdc++.h>

using namespace std;

vector<vector<int>> matrixMultiplication(vector<vector<int>> &a, vector<vector<int>> &b) {

int n = a.size();

int m = b[0].size();

vector<vector<int>> c(n, vector<int>(m, 0));

for (int i = 0; i < n; i++) {

for (int j = 0; j < m; j++) {

for (int k = 0; k < a[0].size(); k++) {

c[i][j] += a[i][k] \* b[k][j];

}

}

}

return c;

}

int main() {

vector<vector<int>> a = {{1, 2}, {3, 4}};

vector<vector<int>> b = {{5, 6}, {7, 8}};

cout<<"Matrix 1 :-\n";

for(auto x : a){

for(auto y : x) cout<<y<<" ";

cout<<endl;

}

cout<<"Matrix 2 :-\n";

for(auto x : b){

for(auto y : x) cout<<y<<" ";

cout<<endl;

}

auto start = chrono::steady\_clock::now();

vector<vector<int>> c = matrixMultiplication(a, b);

cout<<"Result matrix:-\n";

for (int i = 0; i < c.size(); i++) {

for (int j = 0; j < c[0].size(); j++) {

cout << c[i][j] << " ";

}

cout << endl;

}

auto end = chrono::steady\_clock::now();

auto diff = end - start;

cout <<"Execution time: "<< chrono::duration <double, milli> (diff).count() << " ms\n";

return 0;

}

**Output:**

