Experiment – 1

Aim: Write a program to print the multiplication of two given matrix.

**Source Code:**

#include <iostream>

using namespace std;

class matrix{

public:

int a[10][10], b[10][10], c[10][10], r1, C1, r2, C2, i, j, k, sum;

void input(){

cout<<"Number of rows for first matrix: ";

cin>>r1;

cout<<"Number of columns for first matrix: ";

cin>>C1;

cout<<"The elements for first matrix: "<<endl;

for(i=0; i<r1; i++){

for(j=0; j<C1; j++){

cout<<"The value at ["<<i<<"]["<<j<<"]:";

cin>>a[i][j];

}

}

cout<<"Number of rows for second matrix: ";

cin>>r2;

cout<<"Number of columns for second matrix: ";

cin>>C2;

cout<<"The elements for Second matrix: "<<endl;

for(i=0; i<r2; i++){

for(j=0; j<C2; j++){

cout<<"The value at ["<<i<<"]["<<j<<"]:";

cin>>b[i][j];

}

}

}

void display(){

cout<<"The First matrix: "<<endl;

for(i=0; i<r1; i++){

for(j=0; j<C1; j++){

cout<<a[i][j]<<"\t";

}

cout<<endl;

}

cout<<"The Second matrix: "<<endl;

for(i=0; i<r2; i++){

for(j=0; j<C2; j++){

cout<<b[i][j]<<"\t";

}

cout<<endl;

}

}

void multiply(){

if(C1==r2) {

for(i=0; i<r1; i++){

for (j=0; j<C2; j++){

sum = 0;

for(k=0; k<r2; k++){

sum = sum + (a[i][k] \* b[k][j]);

c[i][j] = sum;

}

}

}

} else {

cout<<"Multiplication not possible";

}

}

void displayMultiplication(){

cout<<"Result is: "<<endl;

for(i=0; i<r1; i++){

for(j=0; j<C2; j++){

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

}

cout<<endl;

}

cout<<endl;

}

};

int main()

{

matrix obj;

obj.input();

obj.display();

obj.multiply();

obj.displayMultiplication();

return 0;

}

**Output:**

