

ASSIGNMENT 8: matrix multiplication

DATE: 24/03/2021

CODE:

```
#include<iostream>
using namespace std;
int main ()
{
    int r1, c1, r2, c2, i, j, k;
    int A[5][5], B[5][5], C[5][5];
    cout << "Enter number of rows and columns of matrix A : ";
    cin >> r1 >> c1;
    cout << "Enter number of rows and columns of matrix B : ";
    cin >> r2 >> c2;
    if (c1 != r2)
    {
        cout << "Matrices cannot be multiplied!";
        exit(0);
    }
    cout << "Enter elements of matrix A : ";
    for (i = 0; i < r1; i++)
        for (j = 0; j < c1; j++)
            cin >> A[i][j];
    cout << "Enter elements of matrix B : ";
    for (i = 0; i < r2; i++)
        for (j = 0; j < c2; j++)
            cin >> B[i][j];
    for (i = 0; i < r1; i++)
    {
        for (j = 0; j < c2; j++)
        {
            C[i][j] = 0;
            for (k = 0; k < r2; k++)
            {
                C[i][j] += A[i][k] * B[k][j];
            }
        }
    }
    cout << "Product of matrices\n";
    for (i = 0; i < r1; i++)
    {
        for (j = 0; j < c2; j++)
            cout << C[i][j] << " ";
    }
}
```

```
        cout << "\n";  
    }  
    return 0;  
}
```

OUTPUT:

```
Enter number of rows and columns of matrix A : 2 2  
Enter number of rows and columns of matrix B : 2 2  
Enter elements of matrix A : 1 2 3 4  
Enter elements of matrix B : 5 6 7 8  
Product of matrices  
19  22  
43  50  
  
...Program finished with exit code 0  
Press ENTER to exit console.
```